

MISSOURI



NATURAL RESOURCES

Missouri Department of Natural Resources
Air Pollution Control Program
2023 Monitoring Network Plan

September 1, 2023

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Summary of Proposed and Recent Changes

The Missouri Department of Natural Resources (department) operates an extensive network of ambient air monitors. Missouri's Monitoring Network Plan describes the network and discusses proposed and recent changes. The changes are summarized below.

Proposed Changes

1. The department proposes to reduce the frequency of lead monitoring at the Mott Street site in Herculaneum from every day to every third day for the primary sampler and from every other day to every sixth day for the collocated sampler. The most recent NAAQS exceedance at that site was in November 2017-January 2018. Three-month average lead concentrations measured at Mott Street have not exceeded 0.05 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) for the last three years (2020-2022).
2. The department proposes to monitor air toxics in Kansas City and to evaluate low-cost sensors for particulate matter and other pollutants at multiple sites in Missouri subject to funding under an Inflation Reduction Act Clean Air Grant. The start date of the monitoring will be in late 2023 to early 2024.
3. The department plans to replace the 1405-DFs at Blair Street, Forest Park and the Kansas City area near-roadway site with Teledyne API T640X instruments if updated firmware for the T640X is approved by EPA and becomes available by March 2024. Otherwise, they will be replaced with new 1405-Fs.
4. The department plans to replace aging 1405-Fs in the network with T640 instruments, starting with the Ladue and Liberty sites. This replacement is contingent on upgraded firmware for the T640; if upgraded firmware is not available, the replacement will be with new 1405-Fs.
5. The department plans to establish a new Kansas City area near-roadway site by Jan. 1, 2024, to replace the discontinued Blue Ridge I-70 site. The department will keep EPA Region 7 staff informed during the site selection process and will seek approval from EPA on the site selection prior to placing the site.

Changes since the 2022 Monitoring Network Plan

1. Doe Run discontinued lead monitoring at the two non-ambient sites in Glover in June 2022 following EPA approval on April 27, 2022, of the revisions to the state implementation plan (SIP) and consent agreement applicable to monitoring in Glover.
2. The department discontinued lead monitoring at the Fletcher site located in Reynolds County and at the Ursuline North site near Herculaneum in February 2023 as

proposed in the 2022 Monitoring Network Plan, which EPA approved on December 15, 2022.

3. The department has replaced the 1405-DF instruments in the network with 1405-Fs for PM_{2.5} measurement at all but two sites (Blair Street and Forest Park). Blair Street (NCore site) is measuring PM_{2.5}, PM₁₀ and PM_{Coarse}. Forest Park is measuring PM_{2.5}.
4. The Fellows Lake ozone monitoring site in Springfield was relocated as proposed in Appendix 2 of the 2022 Monitoring Network Plan. The owner of the site requested the relocation. The department completed the move after the end of the 2022 ozone season and before the start of the 2023 ozone season. The new site is approximately one-half mile west of the previous site and is therefore representative of the same air mass. Therefore, data continuity will not be affected by the relocation.
5. The department discontinued monitoring at the Kansas City area near-roadway site, Blue Ridge I-70, in May 2023 because of site security issues.

How to Make Public Comments Concerning this Plan

The department posted Revision 0 of the 2023 Monitoring Network Plan on the web for public review and comment on June 15, 2023. The department accepted comments concerning the plan electronically at cleanair@dnr.mo.gov, or by mail to the following address:

Missouri Department of Natural Resources
Air Pollution Control Program
Air Quality Analysis Section/Air Monitoring Unit
PO Box 176
Jefferson City MO 65102

The department has included all comments received through July 16, 2023, and responses to comments in Appendix 2 of this final version of the plan (Revision 1). Additionally, the department has identified corrections and changes to the plan in Appendix 2.

Introduction

The department operates an extensive network of ambient air monitors to comply with the Clean Air Act and its amendments. The Ambient Air Quality Monitoring Network for Missouri includes State and Local Air Monitoring Stations (SLAMS), SPMs and an NCORE monitoring site consistent with requirements in federal regulation in 40 C.F.R. § 58.

40 C.F.R. § 58.10 requires states to submit an annual monitoring network plan to EPA, including any proposed network changes. In accordance with 40 C.F.R. § 58.10, Missouri must include in the plan a statement of whether the operation of each monitor meets the requirements of appendices A, B, C, D and E of 40 C.F.R. § 58, where applicable. All monitors in the Missouri air monitoring network, including those operated by the state and industries under state review, meet the applicable requirements of 40 C.F.R. § 58. Any changes to the SLAMS requires approval by the EPA Regional Administrator.

The plan must contain the following information for each monitoring station in the network; (See Appendix 1 and the body of this document):

1. The AQS site identification number for existing stations.
2. The location, including the street address and geographical coordinates, for each monitoring station.
3. The sampling and analysis method used for each measured parameter.
4. The operating schedule for each monitor.
5. Any proposal to remove or move a monitoring station within a period of 18 months following the plan submittal.
6. The monitoring objective and spatial scale of representativeness for each monitor.
7. The identification of any sites that are or are not suitable for comparison against the annual PM_{2.5} National Ambient Air Quality Standard (NAAQS).
8. The metropolitan statistical area, core-based statistical area (CBSA), combined statistical area or other area represented by the monitor.

EPA requires a network assessment every five years. The department completed the most recent network assessment in June 2020.

Network Design

Federal regulation 40 C.F.R. § 58 establishes the design criteria for the ambient air monitoring network. The state must design the network to meet three general objectives:

1. Provide air pollution data to the public in a timely manner.
2. Support compliance with ambient air quality standards and emissions strategy development.
3. Support air pollution research studies.

Specific objectives for the monitoring sites are:

1. Determine the highest pollution concentrations in an area.

2. Measure typical concentrations in areas of high population density.
3. Determine the impact of significant sources or source categories.
4. Determine general background levels.
5. Determine the extent of regional pollutant transport among populated areas.

Minimum site requirements, based on CBSA population, are provided for ozone (O_3), sulfur dioxide (SO_2), carbon monoxide (CO), nitrogen dioxide (NO_2), airborne particulate matter with aerodynamic diameter equal to or smaller than 10 micrometers (PM_{10}) and airborne particulate matter with aerodynamic diameter equal to or smaller than 2.5 micrometers ($PM_{2.5}$).

40 C.F.R. § 58 Appendix E establishes the specific requirements for monitor/probe siting to ensure the ambient data represents the stated objectives and spatial scale. The requirements are pollutant/scale specific. Periodically, department staff visit and evaluate each monitoring site to ensure compliance with the requirements of 40 C.F.R. § 58 Appendix E. Additional details concerning the sites are available in Appendix 1.

Unanticipated Network Modifications

Changes to the monitoring network may occur outside the annual monitoring network planning process due to unforeseen circumstances including, but not limited to, severe weather, natural events, changes in property ownership, changes in federal funding, or changes in funding available from air emission fees from industrial facilities. The department will communicate any changes to the network that result from conditions outside the state's logistical control and not included in the current monitoring network plan to EPA Region 7 staff and identify such changes in the subsequent annual monitoring network plan.

Special Purpose Monitors

A monitor is designated as an SPM consistent with the regulatory definition in 40 C.F.R. § 58.20 (a): “An SPM is defined as any monitor included in an agency's monitoring network that the agency has designated as a special purpose monitor in its annual monitoring network plan and in AQS, and which the agency does not count when showing compliance with the minimum requirements of this subpart for the number and siting of monitors of various types.”

SPMs may be established for many different purposes, including but not limited to NAAQS compliance evaluation, air quality research and characterization, air quality investigation and monitoring method evaluation.

The department includes SPMs in the annual monitoring network plan required by 40 C.F.R. § 58.10. The department installs or approves the installation of these monitors consistent with 40 C.F.R. § 58.20 (f). The department removes, or allows the removal of, these monitors following federal guidelines, which are different for SPMs than for SLAMS. There is more description of each SPM later in the document. The Missouri Monitoring Network Description, Appendix 1, specifies SPM sites and SLAMS sites.

Industrial Monitors

Ambient air monitoring sites classified as Industrial, in this document, indicate sites the industrial source or its contractor operates under an approved industrial monitoring Quality Assurance Project Plan (QAPP) and departmental Quality Management Plan (QMP). Department staff conduct quality assurance audits of these monitoring sites consistent with the approved QAPP.

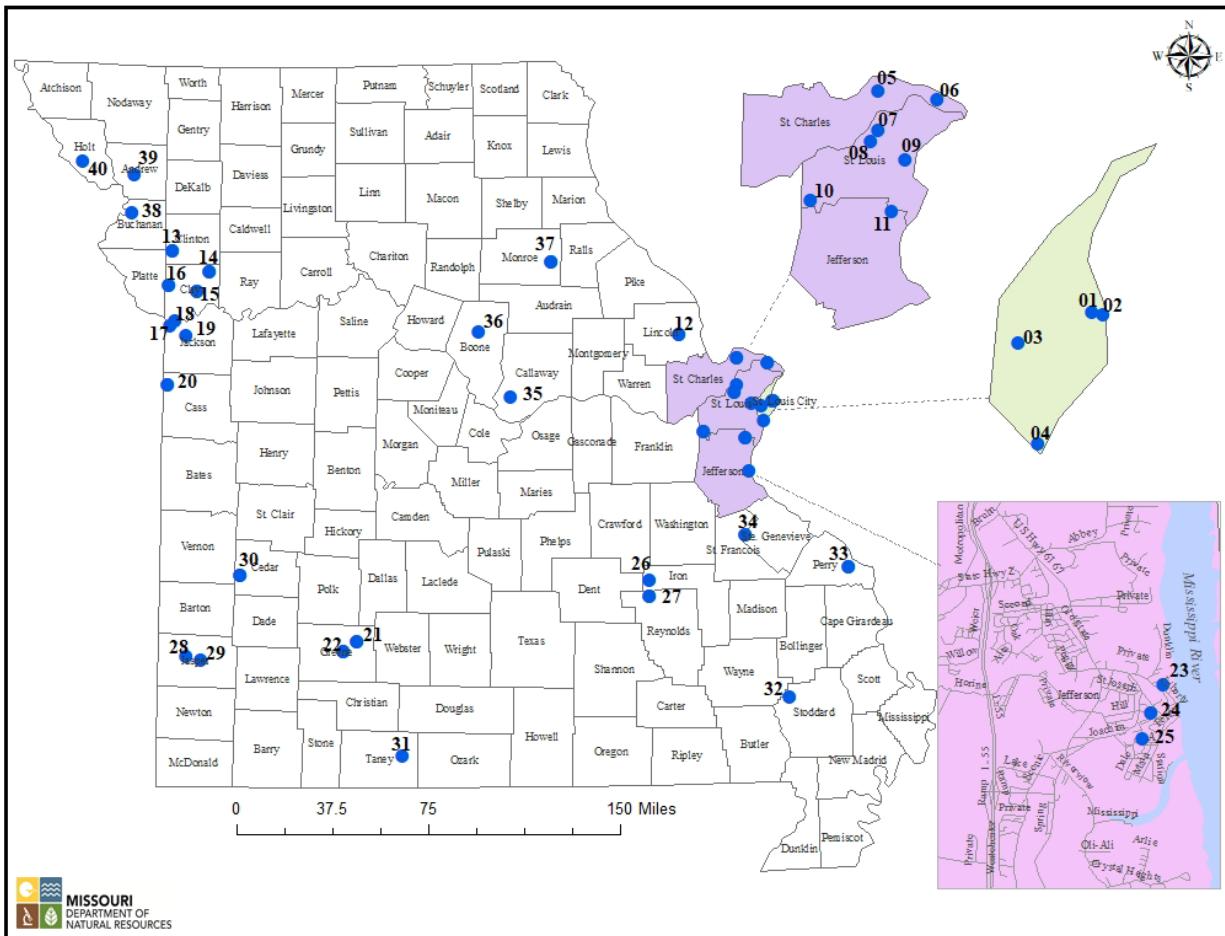
Missouri oversees ambient air monitoring sites operated by industrial sources for NAAQS compliance. The department has incorporated these industrial sites in the annual Monitoring Network Plan and the ambient air monitoring network. Currently, lead and SO₂ industrial sites are in the Missouri monitoring network.

Some industrial lead monitoring sites are classified in the AQS as non-regulatory due to the sites transitioning to non-ambient status. However, the department has required continued monitoring at these locations in agreements with the industrial source for trends analysis or other purposes.

2023 Ambient Air Monitoring Network, State Sites

The 2023 statewide monitoring network is shown in the following map and table.

2023 Missouri State Monitoring Network



Legend (State's Monitoring Network)						
St. Louis Area			Springfield Area			Acronyms
Site#	Site Name	Parameter Monitored	Site#	Site Name	Parameter Monitored	PM ₁₀
01	Blair Street ⁺	PM ₁₀ , PM _{2.5} , PM _{2.5} (Spec), PMCoarse, PM ₁₀ -LC, PM _{2.5} -Pb, O ₃ , SO ₂ , NO ₂ , NO _x , NO, NO _x , NO, CO, Carbonyls, PAHs, VOCs, Air Toxics, Carbons, PM ₁₀ Metals, Prec, WS, WD, OT, IT, SR, BP, RH, PAMS	21	Fellows Lake	O ₃ , IT	PM _{2.5}
02	Branch Street	PM ₁₀ , PM _{2.5} , WS, WD, OT, IT, BP, RH	22	Hillcrest High School	O ₃ , PM ₁₀ , PM _{2.5} , OT, IT, BP, RH	PMCoarse
03	Forest Park	PM _{2.5} , NO ₂ , NO _x , NO, CO, BC, WS, WD, OT, IT, SR, BP, RH, Prec	23	Sherman Dunklin High School	Pb	Spec
04	South Broadway	PM _{2.5} , IT, BP, RH, OT	25	Mott Street	Pb, SO ₂	SO ₂
05	Orchard Farm	O ₃ , IT				NO ₂
06	West Alton Rider Trail	O ₃ , WS, WD, OT, IT, SR NO ₂ , NO _x , NO, WS, WD, OT, IT, SR, Prec, BP	26	Buick NE	Pb, SO ₂ , WS, WD, IT, OT, BP	NO _x
07	I-70	SO ₂ (RES)	27	Oates	Pb	O ₃
08	Maryland Heights	O ₃ , IT				CO
09	Ladue	PM _{2.5} , OT, IT, BP, RH				Pb
10	Pacific	O ₃ , IT				Lead (High Volume)
11	Arnold West	PM ₁₀ , PM _{2.5} , PM _{2.5} (Spec), IT, O ₃ , WS, WD OT, IT, BP, RH				BC
12	Foley West*	O ₃ , IT				Prec
<u>Outstate Area</u>						
Kansas City Area			Site#	Site Name	Parameter Monitored	PAMS
13	Trimble	O ₃ , IT	28	Alba	O ₃ , IT	Photochemical Assessment
14	Watkins Mill	O ₃ , IT	29	Carthage	PM ₁₀ , WS, WD, IT	Monitoring Station
15	Liberty	PM _{2.5} , O ₃ , OT, IT, SR, BP, RH	30	El Dorado	PM _{2.5} , O ₃ , WS, WD, OT, IT, BP, RH	Polycyclic Aromatic Hydrocarbons
16	Rocky Creek	O ₃ , IT	31	Springs Hercules Glades	PM _{2.5} (Spec)- IMPROVE	
17	Troost	PM _{2.5} , PM ₁₀ , SO ₂ , NO ₂ , NO _x , OT, IT, BP	32	Mingo	PM _{2.5} (Spec)- IMPROVE	
18	Front Street	PM ₁₀	33	Farrar	O ₃ , IT	
19	Blue Ridge I-70+	PM _{2.5} , NO ₂ , NO _x , NO, CO, BC, WS, WD, OT, IT, SR, BP, RH, Prec	34	Bonne Terre	O ₃ , IT, SR	
20	Richards Gebaur-South	PM _{2.5} , O ₃ , WS, WD, OT, IT, BP, RH	35	New Bloomfield	O ₃ , IT	
			36	Finger Lakes	O ₃ , IT	
			37	Mark Twain	PM ₁₀ , SO ₂ , NO ₂ , NO _x , NO, O ₃ , WS, WD, IT	
			38	State Park	PM ₁₀ , PM _{2.5} , PM ₁₀ -LC, WS, WD, OT, IT, RH, BP	
			39	St. Joseph Pump Station	O ₃ , IT	
			40	Savannah Forest City, Exide	Pb	

* Relocated from former Foley site
^PM10-Pb at Blair is NAAQS excluded
+ Site discontinued; plan to relocate by Jan. 1, 2024

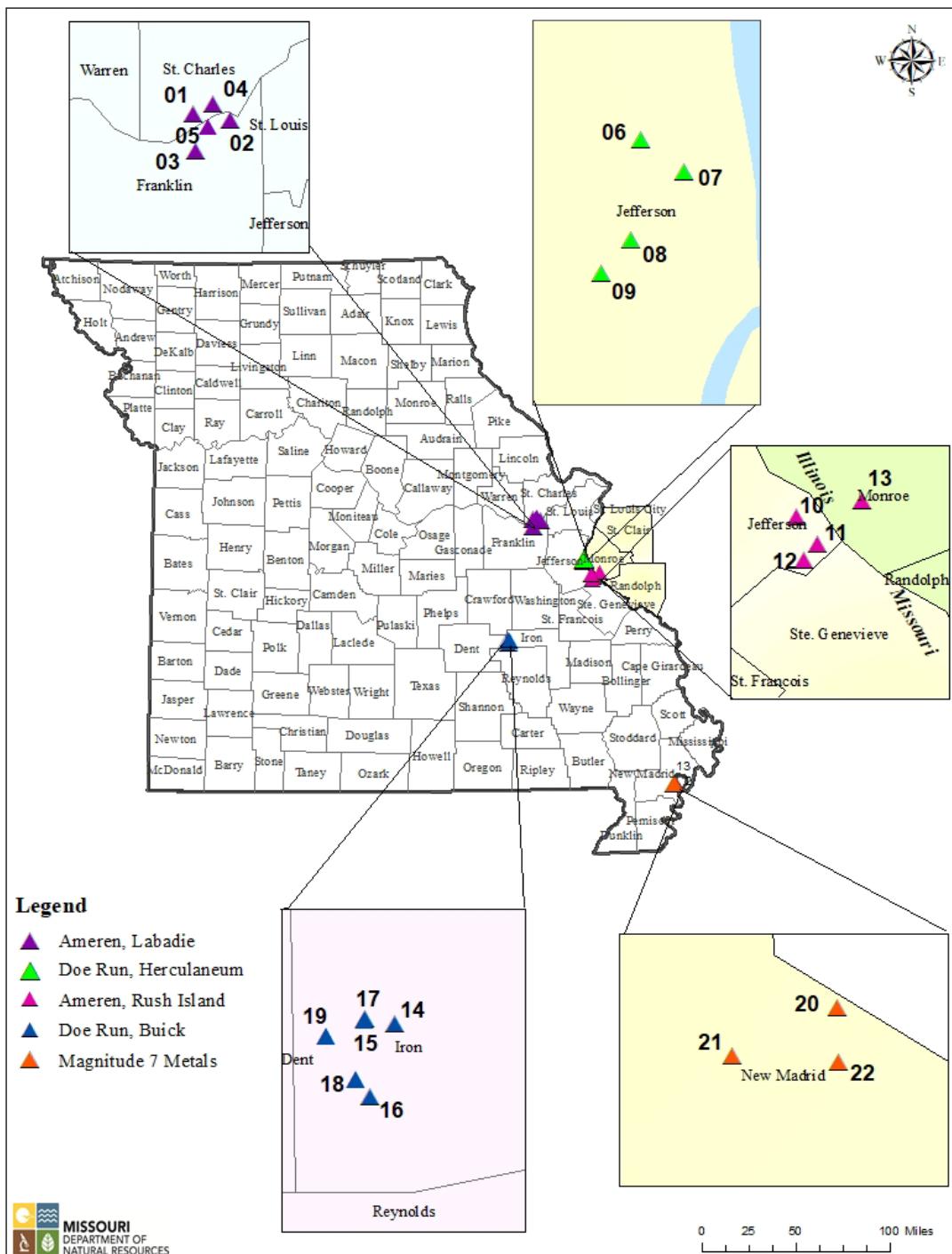
Notes:

1. The Blue Ridge I-70 site has been discontinued. A new near-roadway site is planned to be established in the Kansas City area by 1/1/2024 (see Section 7).
2. The acronym PM₁₀-LC is also commonly referred to as PM_{10c} when collected with a low volume sampler consistent with 40 C.F.R. § 50 Appendix O. PM₁₀-LC means particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers where the concentration is reported at local conditions of ambient temperature and barometric pressure. PM₁₀-LC is used in this document to describe any continuous or filter based PM₁₀ low volume measurement concentration reported at local conditions of ambient temperature and barometric pressure.
3. PM₁₀ means particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers where the concentration is adjusted to EPA reference conditions of ambient temperature and barometric pressure (25 °C and 760 millimeters of mercury or STP).
4. PMCoarse is also frequently referred to as PM_{10-2.5}.

2023 Ambient Air Monitoring Network, Industrial Sites

Monitoring sites operated by industries are shown in the following map and listed in the following table.

2023 Missouri Industry Monitoring Networks



Legend (Industry Monitoring Network)

Ameren, Labadie Energy Center

Site#	Site Name	Parameter Monitored
01	Northwest	SO ₂ , (WS, VWS, WD, OT, σ _φ , σ _e , RH) [▲]
02	Valley	SO ₂ , (WS, VWS, WD, OT, SR, BP, RH, Prec, σ _φ , σ _e) [▲]
03	Southwest	SO ₂
04	North	SO ₂
05	Labadie Plant	SODAR (WS, WD, OT, σ _e , σ _φ) [▲]

Acronyms

SO ₂	Sulfur Dioxide
Pb	Lead (High Volume)
σ _e	Sigma Theta (Standard Deviation of Horizontal Wind Direction)
WS	Resultant Wind Speed
WD	Resultant Wind Direction
OT	Outside Temperature
SR	Solar Radiation
BP	Barometer Pressure
RH	Relative Humidity
σ _φ	Sigma Theta (Standard Deviation of the Vertical Wind Speed)
Prec	Precipitation
VWS	Vertical Wind Speed

Doe Run, Herculaneum

Site#	Site Name	Parameter Monitored
06	Dunklin	Pb
07	Broadway	(WS, WD, OT, SR, BP, RH, Prec, σ _e) ^{▲a}
08	Mott Street	Pb
09	North Cross	Pb

Ameren, Rush Island

Energy Center

Site#	Site Name	Parameter Monitored
10	Weaver-AA	SO ₂
11	Johnson Tall Tower	(WS, VWS, WD, OT, σ _φ , σ _e) [▲]
12	Natchez	SO ₂
13	Fults, IL	SO ₂ , (WS, VWS, WD, OT, SR, BP, RH, Prec, σ _φ , σ _e) [▲]

Doe Run, Buick

Site#	Site Name	Parameter Monitored
16	Buick NE	Pb
17	Buick North#5*	Pb
18	Buick South#1*	Pb, (WS, WD, OT, SR, BP, RH, Prec, σ _e) ^{▲a}
19	Hwy 32 Northeast	SO ₂
20	West Entrance	SO ₂
21	County Road 75	SO ₂

^a Metrological Data is not submitted to the EPA Air Quality (AQS) Database

[▲] Regulatory Dispersion Modeling Grade Parameters

* Non-Ambient Monitor

Magnitude 7 Metals

Site#	Site Name	Parameter Monitored
22	Site #1	SO ₂
23	Site #2	SO ₂
24	Site #3	SO ₂ , (WS, WD, OT)

Monitoring Network and Proposed Changes

1. Lead (Pb) Monitoring Network

EPA requires the monitoring of lead sources emitting 0.50 tons per year (tpy) or more. Prior to 2010, EPA required monitoring for sources emitting one tpy or more. All airports in Missouri are exempt from this requirement. A review of current 2021 emission data did not identify any new sources emitting greater than 0.50 tpy. The department will continue to review emission data for new sources in the future.

1.1 Doe Run-Operated Sites

Doe Run operates lead monitoring sites in the vicinity of its industrial facilities in Herculaneum and Boss. The operation of some of these sites is under consent judgments or agreements with the department. Doe Run operates other sites voluntarily.

Doe Run Herculaneum also operates one 10-meter tower meteorological monitoring at the Broadway site as per the language set forth under the 2011 Consent Judgment. Doe Run Herculaneum discontinued the Broad Street 40-meter tower per the Consent Judgment.

Doe Run discontinued monitoring at the two non-ambient sites in Glover in June 2022 following an April 27, 2022, EPA approval of revisions to the SIP and consent agreement applicable to monitoring in Glover. The Final Rule was effective on May 27, 2022. Lead monitoring in Glover may resume if demolition activity at the Glover facility is resumed.

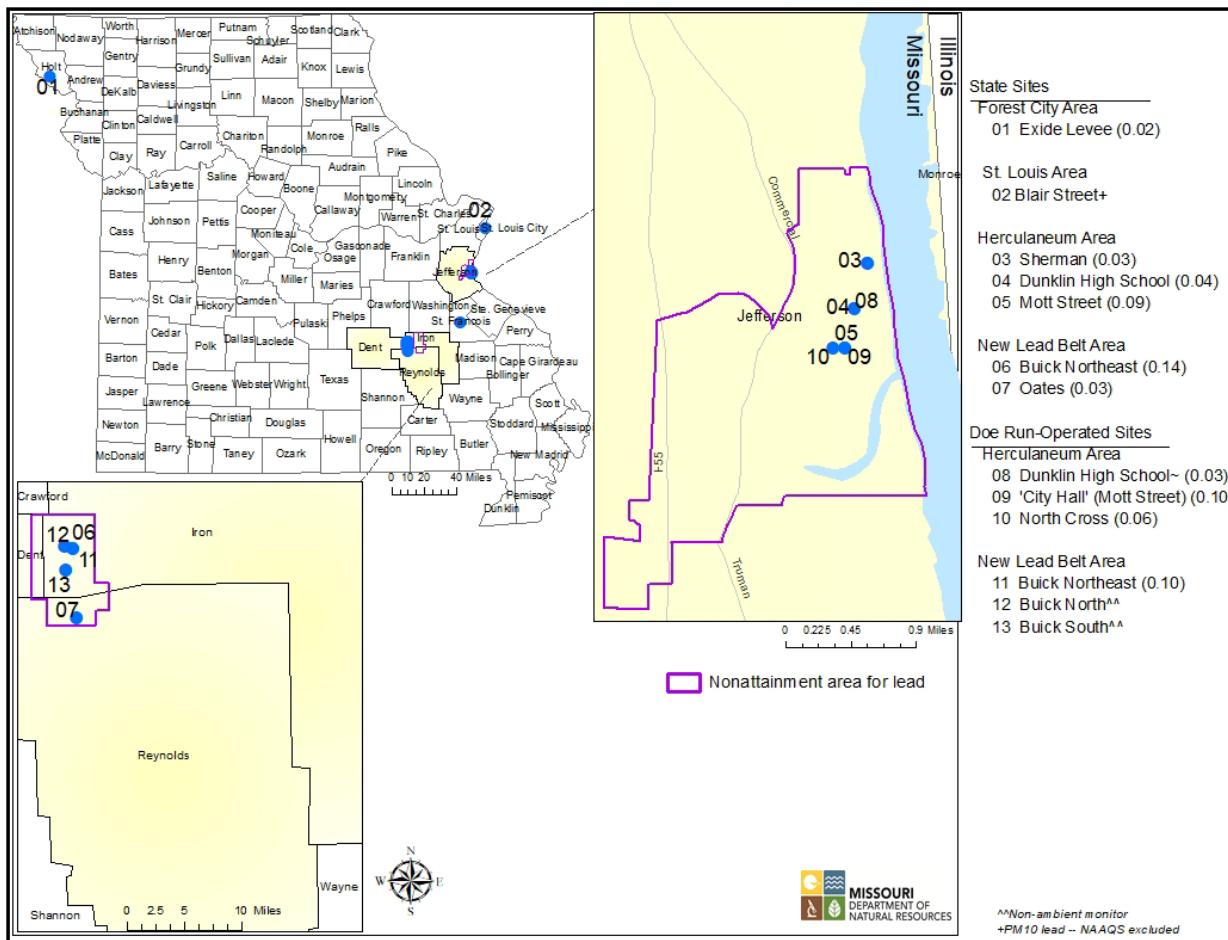
1.2 State-Operated Sites

The department discontinued lead monitoring at the Fletcher site located in Reynolds County and at the Ursuline North site near Herculaneum in February 2023. The changes were proposed in the 2022 Monitoring Network Plan, which EPA approved on Dec. 15, 2022.

The department proposes to reduce the frequency of lead monitoring at the Mott Street site in Herculaneum from every day to every third day for the primary sampler and from every other day to every sixth day for the collocated sampler. The most recent NAAQS exceedance at that site was in November 2017-January 2018. That exceedance resulted from demolition at the lead smelter, which ceased operation in 2013. Three-month average lead concentrations measured at Mott Street have not exceeded 0.05 $\mu\text{g}/\text{m}^3$ for the last three years (2020-2022).

The 2023 lead monitoring network is shown in the following map.

2023 Missouri Lead Monitoring Network*, NAAQS=0.15 $\mu\text{g}/\text{m}^3$ (3 month).
(Numbers in parenthesis are 2021-2023 Design Values)



*Monitoring frequency will be reduced at the Mott Street site after this plan is approved by EPA. No other changes are proposed in this plan.

2. Sulfur Dioxide (SO₂) Monitoring Network

EPA reviewed the SO₂ standard and announced, in March 2019, the standard would remain at 75 parts per billion (ppb), established in 2010. The minimum required SO₂ monitoring network is determined by the Population Weighted Emissions Index (PWEI). The department updated the PWEI analysis using the most recent population and emission data, 2020 CBSA definitions and 2022 estimated population data from the United States Census Bureau and 2017 National Emission Inventory (NEI) emissions data. The following table summarizes the results. The required numbers of monitoring sites based on the PWEI remain unchanged from previous years; two sites in the St. Louis CBSA, and one in the Kansas City CBSA. All other Missouri CBSAs require no monitoring sites. The department and the Illinois Environmental Protection Agency meet this requirement in the St. Louis area with the Blair Street site in Missouri and the East St. Louis site in Illinois, and in the Kansas City area with the Troost site. The SO₂ monitoring network exceeds requirements by including the Wood River site in Illinois, the Herculaneum site in Missouri and the JFK site in Kansas. Communications received from the Illinois Environmental Protection Agency and the Kansas Department of Health and Environment (KDHE) indicate those agencies expect to continue SO₂ monitoring at these sites.

In addition to the minimum network requirements, the department oversees several industrial SO₂ monitoring sites and one additional site. The following sections detail this information.

Population Weighted Emission Index (PWEI) Summary

Area	Estimated 2022 Population	2017 SO2 Emissions (tpy)	PWEI	Required Number of SO2 Monitors
Kansas City	2,209,494	9,703.06	21,439	1
St. Louis	2,801,319	67,179.86	188,192	2
Springfield	487,061	3,477.18	1,694	0
Joplin	184,086	1,244.75	229	0
Columbia	214,630	1,644.34	353	0
Jefferson City	150,350	773.09	116	0
St. Joseph	119,690	561.49	67	0
Cape Girardeau	98,275	714.96	70	0
Maryville	20,670	165.46	3	0
Warrensburg	54,368	65.01	4	0
Marshall	23,007	58.77	1	0
Sedalia	43,353	195.16	8	0
Branson	56,821	644.48	37	0
Kirksville	29,167	150.29	4	0
Moberly	24,622	16,556.63	408	0
Lebanon	36,313	187.95	7	0
Mexico	24,434	48.62	1	0
Fort Leonard Wood	53,941	128.70	7	0
Rolla	45,313	172.68	8	0
West Plains	40,631	293.39	12	0
Fort Madison-Keokuk	56,807	998.13	57	0
Quincy	74,616	895.05	67	0
Hannibal	38,858	859.58	33	0
Farmington	66,969	168.78	11	0
Poplar Bluff	52,882	496.26	26	0
Sikeston	37,840	4,746.17	180	0
Kennett	27,406	42.02	1	0

PWEI=population*SO2(tpy)/1,000,000

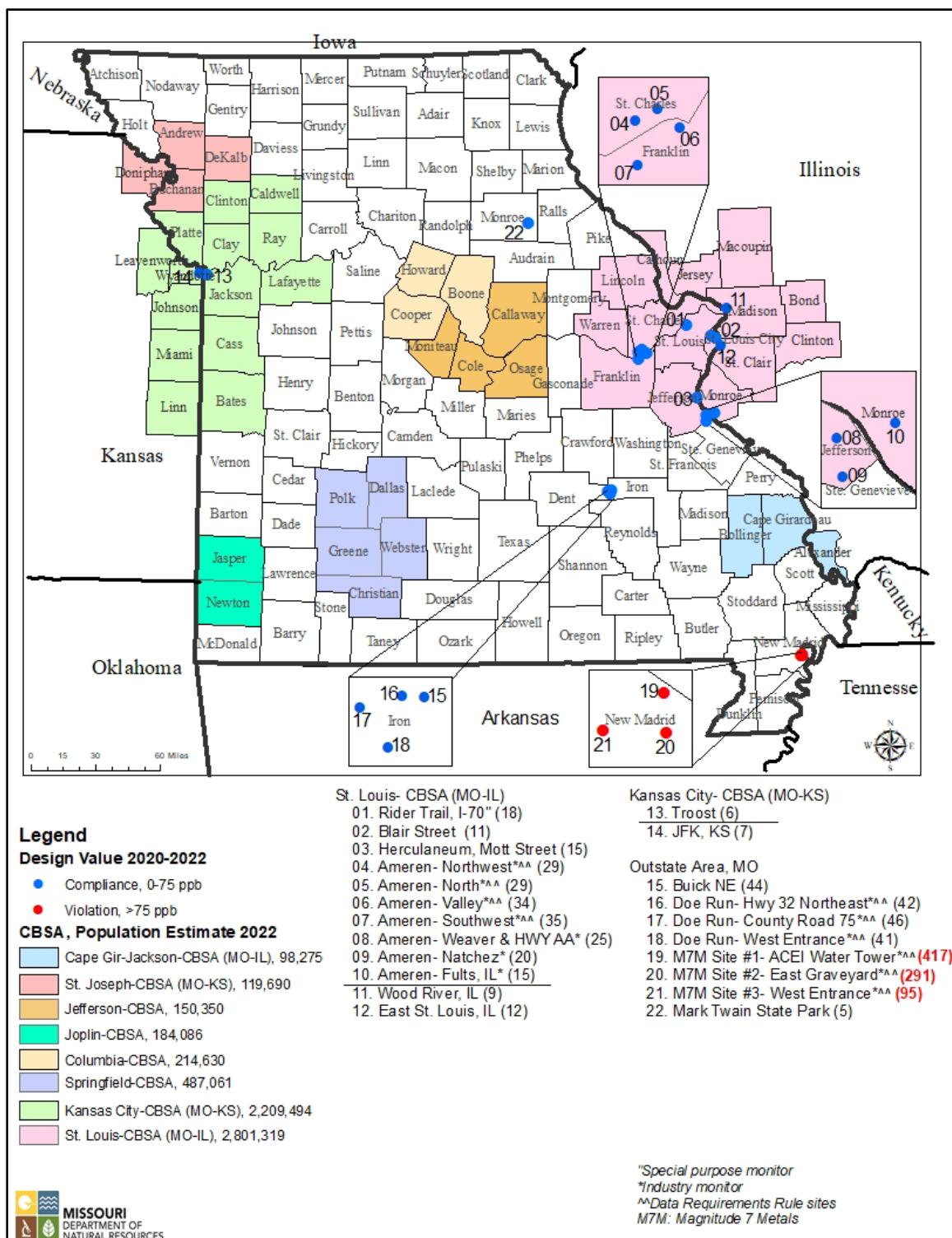
PWEI \geq 1,000,000: 3 monitors

1,000,000 > PWEI \geq 100,000: 2 monitors

100,000 > PWEI \geq 5,000: 1 monitor

The department's 2023 SO₂ monitoring network is shown in the following map.

**2023 Missouri Sulfur Dioxide (SO₂) Monitoring Network*, NAAQS=75 ppb (1 hour).
(Numbers in Parentheses are 2020-2022 Design Values)**



*No changes to the SO₂ network are proposed in this plan.

In 2015, EPA finalized the SO₂ Data Requirements Rule (DRR). This rule required air agencies to characterize air quality, either by monitoring or modeling, around sources that emit 2,000 tpy or more of SO₂.

Sources monitoring due to the DRR include Ameren Labadie Energy Center, Magnitude 7 Metals (formerly Noranda Aluminum) and Doe Run Buick Resource Recycling Facility. In addition, Ameren Rush Island Energy Center conducts monitoring based on an agreement with the department associated with the Jefferson County maintenance plan submitted to EPA in December 2017. The following sections include discussions of these sources.

The industrial sources are conducting the SO₂ monitoring in accordance with the SLAMS requirements in 40 C.F.R. § 58. The department reviewed and approved the siting of the monitors based on federal regulations. To meet the requirements of the DRR, the monitors need a minimum of three years of monitoring data, which is now complete. However, the sources cannot discontinue monitoring without EPA approval based on the requirements of 40 C.F.R. § 51.1203(c) (3) or 40 C.F.R. § 58.14.

2.1 Industrial SO₂ and Meteorological Monitoring near the Labadie and Rush Island Energy Centers

Ameren operates two SO₂ ambient air monitoring networks around the Labadie and Rush Island power plants. The department classifies the monitors in the Ameren networks as industrial SO₂ monitors. Sections 2.1.1 and 2.1.2 describe the current status of the Labadie and Rush Island SO₂ monitoring networks.

2.1.1 Labadie Energy Center

Two industrial SO₂ ambient air monitoring sites and a meteorological monitoring station began operation in April 2015, in the area around the Ameren Labadie Energy Center, located at 226 Labadie Power Plant Road in Franklin County. Ameren installed two additional industrial SO₂ monitoring sites southwest and north of the Labadie Energy Center, which began operation on Jan. 1, 2017. In addition, Ameren added meteorological monitoring using a 10-meter tower at the Northwest site. A sound detection and ranging (SODAR) instrument was initially located at the Valley site, relocated to the Northwest site in February 2017, and relocated again to the Labadie plant site in August 2017. Ameren operates these monitoring sites (see the following table) under a department-approved QAPP. The 2015 and 2016 monitoring network plans provide a detailed discussion on the modeling results that support the site selection. These monitors have not shown a violation of the NAAQS. EPA proposed redesignation of the area in St. Charles and Franklin counties around this facility from unclassifiable to attainment in August 2020, but the redesignation has not yet been finalized as of this writing (April 2023).

Summary of Labadie Area Industrial Monitoring Stations:

Monitoring Objective: Source Oriented

Spatial Scale of representativeness: Middle Scale (100 square meters [m^2]) to 0.5 square kilometer [km^2])

Labadie Northwest -SO₂, 10-Meter Meteorological Station. (Latitude: 38.5818
Longitude: -90.865528)

Labadie Valley -SO₂, 10-Meter Meteorological Station. (Latitude: 38.572522
Longitude: -90.796911)

Labadie Southwest -SO₂, (Latitude: 38.52825 Longitude: -90.86301)

Labadie North -SO₂, (Latitude: 38.59557 Longitude: -90.82864)

Labadie Plant -SODAR, (Latitude: 38.54860 Longitude -90.83750)

2.1.2 Rush Island Energy Center

On March 23, 2015, the department and Ameren entered into a consent agreement (see Appendix 3 of the 2015 Monitoring Network Plan) that included Ameren installing and operating an SO₂ monitoring network around the Rush Island Energy Center under department oversight. The siting of these monitors was consistent with the technical process described in the SO₂ DRR. The Rush Island monitoring network design was based on an evaluation of dispersion modeling, as described in the 2015 and 2016 Monitoring Network Plans. This network began operation in December 2015. These monitors have not shown a violation of the NAAQS. Ameren operates these sites under a department-approved QAPP, which includes performance evaluations (audits) by department staff.

The department requested in February 2016 that EPA make a clean data determination for the Jefferson County area, and EPA published a clean data determination for the area on Sept. 13, 2017. The department submitted to EPA a redesignation request and maintenance plan in December 2017, followed by a maintenance plan supplement in April 2021. EPA proposed redesignation of the Jefferson County SO₂ nonattainment area to attainment of the 2010 SO₂ standard on June 29, 2021 (86 F. R. 34177). In January 2022, EPA published a final rule to approve Missouri's maintenance plan for this area and redesignate it to attainment, effective on Feb. 28, 2022.

Summary of Rush Island area Industrial Monitoring Stations:

Monitoring Objective: Source Oriented

Spatial Scale of representativeness: Middle Scale (100 m^2 to 0.5 km^2)

Weaver-AA -SO₂, (Latitude: 38.144529 Longitude: -90.304726)

Natchez -SO₂, (Latitude: 38.10525 Longitude: -90.29842)

Fults, IL, -SO₂, 10-Meter Meteorological Station (Latitude: 38.15908 Longitude: -90.22728)

Johnson Tall Tower -Meteorological Station Only, anemometers at 62.5 meter (m) and 132.5 m levels (Latitude: 38.11999 Longitude: -90.28214)

2.2 Industrial SO₂ and Meteorological Monitoring near the Doe Run Buick Resource Recycling Facility

The Doe Run Company began SO₂ monitoring at three sites in the area around the Buick Resource Recycling Facility near Boss starting Jan. 1, 2017. Meteorological monitoring is also

conducted at the Buick South lead monitoring site, south of the facility. These sites are operated under a department-approved QAPP, which includes performance evaluations (audits) by department staff. Locations of these ambient SO₂ monitoring sites were determined on the basis of air quality modeling of the impact of facility emissions, as described in the 2016 Monitoring Network Plan. These monitors have not shown a violation of the NAAQS, and EPA finalized the designation of Iron County, where this facility is located, as attainment/unclassifiable in March 2021 (effective April 2021).

Summary of Doe Run Buick Area Industrial Monitoring Stations:

Monitoring Objective: Source Oriented

Spatial Scale of representativeness: Middle Scale (100 m² to 0.5 km²)

West Entrance -SO₂, (Latitude: 37.63211 Longitude: -91.13565)

County Road 75 -SO₂, (Latitude: 37.64876 Longitude: -91.14890)

Hwy. 32 Northeast (Former PSD site) -SO₂, (Latitude: 37.65319 Longitude: 91.12795)

2.3 Industrial SO₂ and Meteorological Monitoring near the Magnitude 7 Metals (formerly Noranda Aluminum) Facility

Magnitude 7 Metals (M7M) is conducting SO₂ monitoring at three sites and meteorological monitoring at one in the area around its facility near New Madrid. Monitoring at these sites started in January 2017. M7M operates these sites under a department-approved QAPP, which includes performance evaluations (audits) by department staff. The department determined the locations for these ambient SO₂ monitoring sites based on air quality modeling of the impact of facility emissions.

In March 2021 (effective April 2021), EPA finalized the designation of an area surrounding the M7M facility as a nonattainment area for the SO₂ NAAQS, based on 2017-2019 data. EPA designated the remainder of New Madrid County as attainment/unclassifiable. All three of the M7M sites continued to be in violation of the NAAQS based on 2019 through 2021 or 2020 through 2022 data. On Oct. 31, 2022, the department proposed a New Madrid SO₂ nonattainment area SIP revision, which was adopted by the Missouri Air Conservation Commission on April 27, 2023. The SIP revision addresses the nonattainment area planning requirements of the Clean Air Act. The plan includes two new enforceable consent agreements for the two major emitting facilities located in the nonattainment area, the M7M primary aluminum smelter and the Associated Electric Cooperative New Madrid Power Plant. In addition to new enforceable emission rates, the control strategy in this plan includes building a new 65-meter stack at the M7M facility. This SIP revision demonstrates attainment for the New Madrid County SO₂ nonattainment area using the newly established enforceable emission rates in an atmospheric dispersion modeling analysis. The SIP revision is currently pending EPA approval.

Summary of Magnitude 7 Metals area Industrial Monitoring Stations:

Monitoring Objective: Source Oriented

Spatial Scale of representativeness: Middle Scale (100 m² to 0.5 km²)

Site 1 -SO₂, (Latitude: 36.51361 Longitude: -89.56111)

Site 2 -SO₂, (Latitude: 36.50861 Longitude: -89.56083)

Site 3 -SO₂ and Meteorology, (Latitude: 36.50889 Longitude: -89.57083)

2.4 Rider Trail I-70 Site

The department added an SO₂ monitor, designated as an SPM, to the existing Rider Trail I-70 monitoring site in May 2016 to evaluate SO₂ levels in the general area. Since installing the site, the annual fourth-highest daily one-hour SO₂ concentration has ranged from 12 to 23 ppb.

Since the monitor is in the near-roadway environment and is in an area with several SO₂ sources, the department initially classified the spatial scale of representativeness of the SO₂ measurements as middle-scale. The department may reevaluate this classification if trends in the monitoring data and other analyses warrant increasing the spatial scale of representativeness. The monitoring objective for this monitor is to measure population exposure.

3. National Air Toxics Trends Stations (NATTS), and Other Non-Criteria Pollutants Special Purpose Monitoring

3.1 National Air Toxics Trends Stations Monitoring

Routine NATTS monitoring will continue at Blair Street as described in the NATTS work plan. The department is also proposing to monitor air toxics in Kansas City for at least one year starting in late 2023 or in early 2024 and to evaluate low cost sensors for particulate matter and other pollutants at multiple sites in Missouri subject to funding under an Inflation Reduction Act Clean Air Grant.

3.2 Black Carbon

Black Carbon is monitored with an aethalometer as part of the NATTS program at Blair Street. Also, as part of the condition of receiving one-time Section 103 grant funds to implement sites for the near-roadway monitoring network, the department will continue to conduct special purpose PM_{2.5} black carbon monitoring at the Forest Park near-roadway site and will initiate black carbon monitoring at the new Kansas City area near-roadway site using aethalometers (see Section 7).

4. PM_{2.5} Monitoring Network

4.1 PM_{2.5} SLAMS Network

The minimum monitoring requirement based on population and historic PM_{2.5} measurements (40 C.F.R. § 58 Appendix D) requires three sites in St. Louis (because of PM_{2.5} concentrations measured on the Illinois side) and two in Kansas City. St. Louis meets the requirement with four Missouri sites plus three Illinois sites in the St. Louis CBSA (in addition to the near-road sites). Kansas City meets the requirements with three Missouri sites plus three Kansas sites in the Kansas City CBSA (in addition to the near-road site).

There is one PM_{2.5} monitor in Missouri that is not applicable for comparison to the annual NAAQS. The Branch Street site is a middle-scale site focused on a group of sources in the industrial riverfront area of St. Louis. This site is not representative of a neighborhood or larger spatial scale for PM_{2.5} monitoring.

The PM_{2.5} monitors deployed to collocate with the near-roadway NO₂ monitors are micro-scale monitors, but EPA has indicated in 40 C.F.R. § 58 Appendix D, 4.7.1(c)(2) that “In many situations, monitoring sites that are representative of microscale or middle-scale impacts are not unique and are representative of many similar situations. This can occur along traffic corridors or other locations in a residential district. In this case, one location is representative of a number of small scale sites and is appropriate for evaluation of long-term or chronic effects.” EPA may consider these monitors representative of larger areas near roadways and comparable to the annual PM_{2.5} NAAQS consistent with 40 C.F.R. § 58.30.

The Hercules Glades and Mingo Interagency Monitoring of Protected Visual Environments (IMPROVE) sites meet the requirement for regional background PM_{2.5} monitoring. In addition to these sites, the Arnold West and El Dorado Springs sites serve to monitor transport into eastern and western Missouri urban areas, respectively.

TEOM-1405-DFs and TEOM-1405-Fs are the primary FEM reporting instruments in the Missouri network for PM_{2.5} measurement. However, the department does not report data from the PM₁₀ FEM channels of the TEOM-1405-DF instruments to AQS.

Network PM_{2.5} 1405-DF FEM/FRM collocation requirements are currently satisfied at the Blair Street NCore site in St. Louis. The following figure shows FRM/FEM comparability statistics (Class III performance criteria of 40 C.F.R. § 53) for the TEOM-1405-DF (EQPM-0609-182) operating at Blair Street. The additive and multiplicative bias meet the Class III performance criteria of 40 C.F.R. § 53. 1405-F colocation requirements are currently satisfied by the FRM sampler at Ladue.

The department has replaced the 1405-DF instruments in the network with 1405-Fs at all but three sites (Blair Street, Forest Park, and Blue Ridge I-70). The department has discontinued the Blue Ridge I-70 site and plans to install a new Kansas City area near-roadway site by Jan. 1, 2024 (see Section 7). EPA has made American Rescue Plan funds available that will be used to accelerate the equipment replacement cycle. The department currently plans to replace the 1405-

DFs at Blair Street, Forest Park, and the Kansas City area near-roadway site with Teledyne API T640X instruments if updated firmware for the T640X is approved by EPA and becomes available by March 2024. Otherwise, they will be replaced with new 1405-Fs. The T640X instruments are more reliable and more economical to maintain, but PM_{2.5} concentrations from the T640X are biased compared to FRM sampler results, which is the reason for development by the instrument vendor of updated firmware.

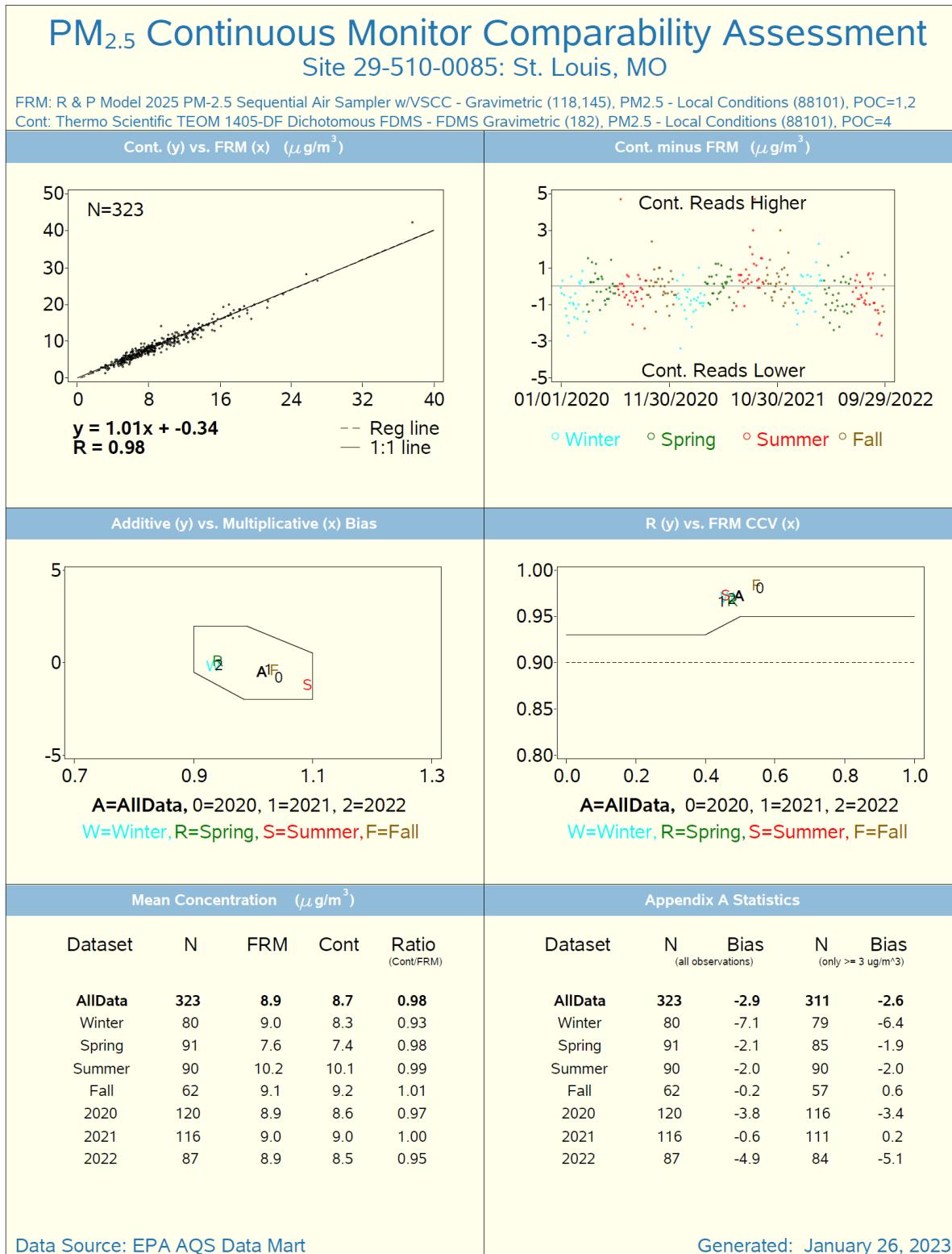
The department plans to replace aging 1405-Fs in the network with T640 instruments, starting with the Ladue and Liberty sites. The T640 is similar to the T640X, but measures only PM_{2.5}, not PM₁₀. As discussed above, this replacement is contingent on upgraded firmware for the T640; if upgraded firmware is not available, the replacement will be with new 1405-Fs.

Two TEOM-1405-F instruments are operated at the St. Joseph Pump Station site; one designated as primary, and one as collocated to satisfy the collocation requirement for that FEM method. The TEOM-1405-DF at Blair Street is currently designated as the primary PM_{2.5} instrument at that site. The FRM PM_{2.5} sampler at Blair Street will be the collocated FRM sampler for the new T640X (or 1405F) instruments. The department will designate the FRM PM_{2.5} sampler at Ladue as the collocated FRM for the new T640 instruments or discontinue the FRM at Ladue if no T640s are installed.

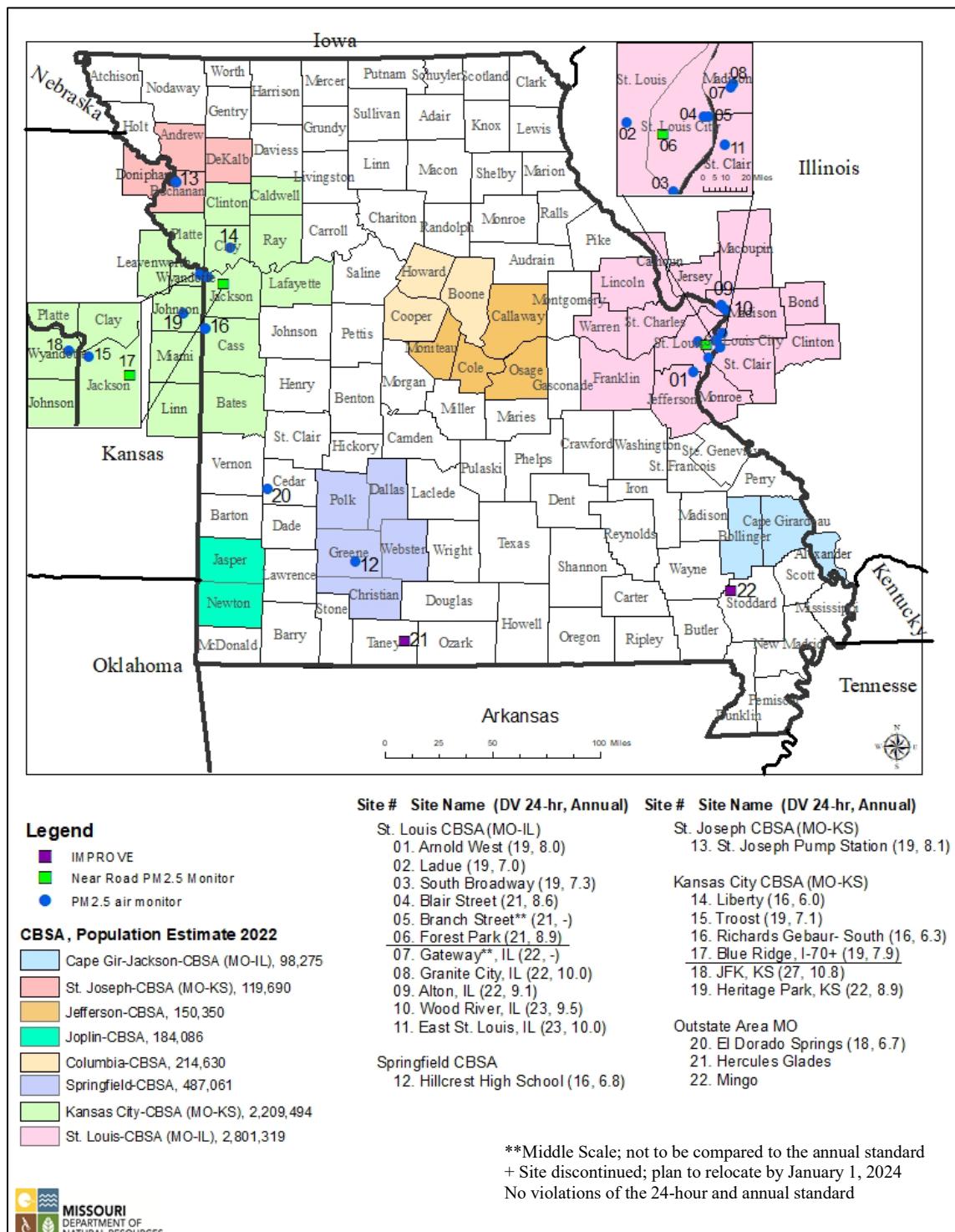
The department is operating a Teledyne API T640X instrument at Blair Street and one at Troost and one at the Hillcrest High School site in Springfield as SPMs for PM₁₀ measurement and to evaluate this instrument, which measures airborne particulate concentration using light scattering, for possible future use in the PM_{2.5} network.

The department is also operating a Teledyne API T640, provided by EPA, at the Forest Park site in St. Louis. EPA is using data with a time resolution as short as one minute from that instrument and time-resolved data from the TEOM-1405-DF and meteorological instruments in non-parametric trajectory analysis (NTA), which uses high time-resolution PM_{2.5} concentrations, other air quality data, and wind data to help identify source impacts. The department also provides time-resolved data to EPA from the Teledyne API T640X and other instruments at the Troost site in Kansas City.

FRM/ FEM Comparability Assessment
Blair Street, St. Louis, 2020-2022
from EPA [PM_{2.5} Continuous Monitor Comparability Assessments](#)



2023 Missouri PM_{2.5} Monitoring Network*, NAAQS=35 µg/m³ (24 hours), 12 µg/m³ (Annual). (Numbers in Parentheses are 2020-2022 Design Values for the 24-hour and Annual Standards)



*No changes to the PM_{2.5} network are proposed in this plan, other than continuing replacement of aging samplers and relocation of the Kansas City area near-roadway site from Blue Ridge I-70 (see Section 7).

4.2 PM_{2.5} Chemical Speciation Network (CSN)

The department conducts PM_{2.5} speciation sampling at Blair Street in St. Louis (every three days) and at Arnold West (every six days).

4.3 PM_{2.5} Section 103 Federal Funding

The department is not proposing any changes to the PM_{2.5} monitoring network other than to continue to replace aging equipment and possibly discontinue the FRM sampler at Ladue as described previously. This plan, however, is contingent on EPA providing adequate grant funds to operate and maintain the PM_{2.5} monitoring network.

40 C.F.R. § 58.14 (c) indicates, “State, or where appropriate, local agency requests for SLAMS monitor station discontinuation, subject to the review of the Regional Administrator, will be approved if any of the following criteria are met and if the requirements of appendix D to this part, if any, continue to be met. Other requests for discontinuation may also be approved on a case-by-case basis if discontinuance does not compromise data collection needed for implementation of a NAAQS and if the requirements of appendix D to this part if any, continue to be met.” If reductions to the network become necessary, the department will provide written communication describing the network changes to the EPA Regional Administrator for review and approval, consistent with 40 C.F.R. § 58.14(b).

2023 Missouri PM_{2.5} Monitoring Network*

Site	Schedule*	Type	Agency	Purpose
St. Louis				
1. Blair Street	3	Collocated FRM	ESP	Ncore and Quality Assurance
	3	Speciation	ESP	Chemical Speciation Network
	H	TEOM-1405-DF FEM	ESP	24 hr & Annual NAAQS/AQI, Ncore, PM10-2.5 continuous
	H	T640X PM Mass Monitor FEM	ESP	Method Performance Evaluation/Research. Not for NAAQS Compliance Determination
2. Branch Street	H	TEOM-1405-F FEM	ESP	24 hr NAAQS/AQI (unique middle scale monitor†)
	H	T640X PM Mass Monitor FEM	ESP	Method Performance Evaluation/Research. Not for NAAQS Compliance Determination
3. Forest Park, I-64 (near-roadway)	H	TEOM-1405-DF FEM	ESP	24 hr & Annual/AQI, PM2.5 continuous (micro scale monitor)
4. South Broadway	H	TEOM-1405-F FEM	ESP	24 hr & Annual NAAQS/AQI
5. Ladue	H	TEOM-1405-F FEM	ESP	24 hr & Annual NAAQS/AQI
	6	Collocated FRM	ESP	Quality Assurance
6. Arnold West	6	Speciation	ESP	Chemical Speciation Network
	H	TEOM-1405-F FEM	ESP	24 hr & Annual NAAQS/AQI
Kansas City				
7. Liberty	H	TEOM-1405-F FEM	ESP	24 hr & Annual NAAQS/AQI
8. Troost	H	TEOM-1405-F FEM	ESP	24 hr & Annual NAAQS/AQI
		T640X PM Mass Monitor FEM	ESP	Method Performance Evaluation/Research. Not for NAAQS Compliance Determination
9. Blue Ridge I-70 (near-roadway)	H	TEOM-1405-DF FEM	ESP	24 hr & Annual/AQI, PM2.5 continuous (micro scale monitor)
10. Richards-Gebaur South	H	TEOM-1405-F FEM	ESP	24 hr & Annual NAAQS/AQI
Springfield				
11. Hillcrest High School	H	TEOM-1405-F FEM	ESP	24 hr & Annual NAAQS/AQI
	H	T640X PM Mass Monitor FEM	ESP	Method Performance Evaluation/Research. Not for NAAQS Compliance Determination
Outstate				
12. St. Joseph Pump Station	H	TEOM-1405-F FEM	ESP	24 hr & Annual NAAQS/AQI
	H	Collocated TEOM-1405-F FEM	ESP	Quality Assurance
13. El Dorado Springs	H	TEOM-1405-F FEM	ESP	24 hr & Annual/AQI
14. Mingo	3	IMPROVE	Fish & Wildlife Service	Chemical Speciation Network
15. Hercules Glades	3	IMPROVE	Forest Service	Chemical Speciation Network

* 3 = Every third day; 6 = Every sixth day; H = Continuous monitoring, hourly data reported.

† The Branch St. Monitor is a unique middle scale impact site and not eligible for comparison to the Annual PM_{2.5} NAAQS consistent with 40 CFR 58.30.

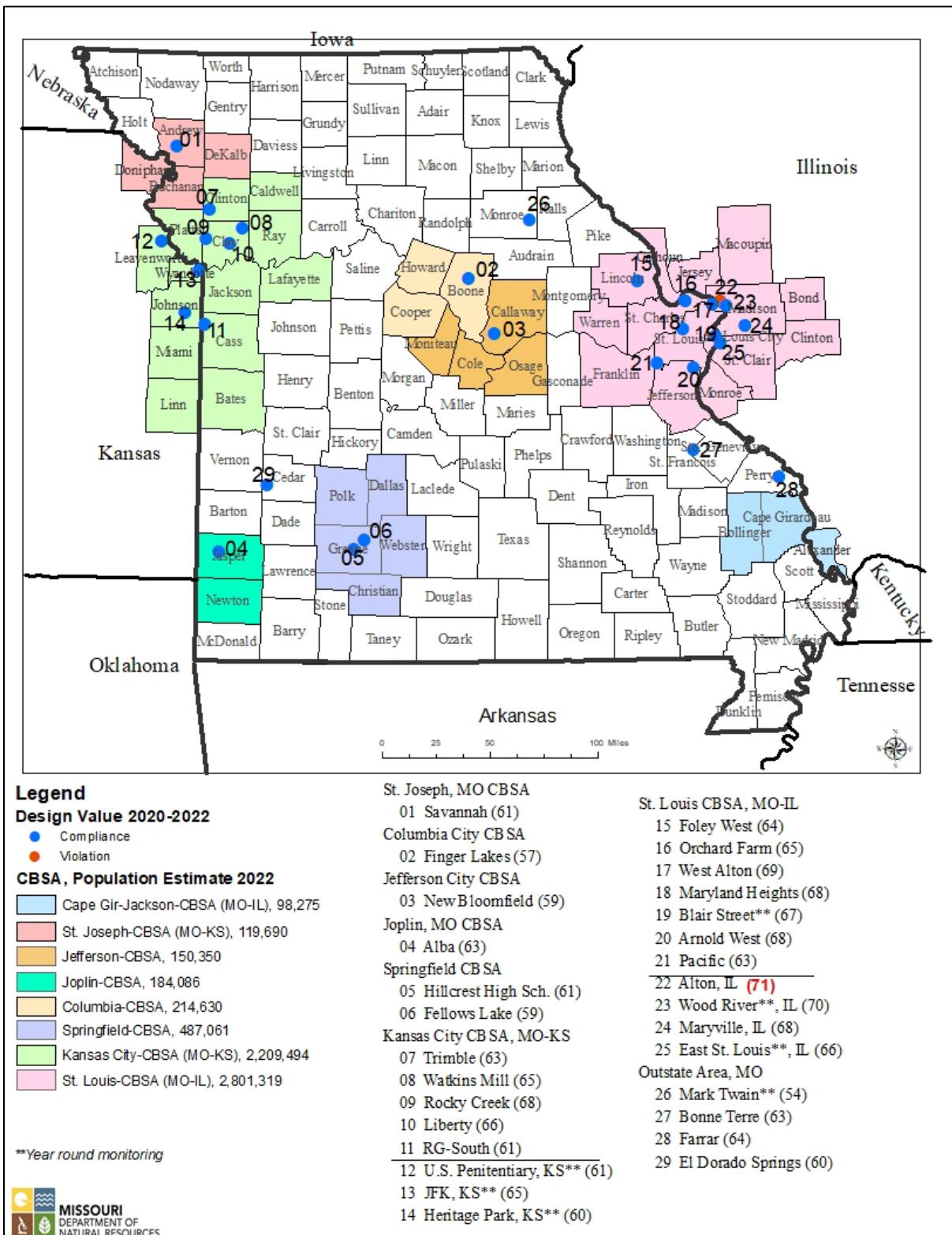
*The Blue Ridge I-70 site has been discontinued. A new Kansas City area near-roadway site is planned to be established by Jan. 1, 2024 (see Section 7). The Teledyne API T640, provided by EPA, that the department is operating at the Forest Park site in St. Louis is not included in this table, because it is a special purpose monitor being used to record high time resolution data (see Section 4.1).

5. Ozone Monitoring Network

The department is not planning any changes to the ozone monitoring network. Ozone monitoring will continue all year at the Mark Twain State Park (MTSP) site to collect ozone background concentrations needed for Prevention of Significant Deterioration (PSD) modeling projects and at Blair Street to meet the NCore ozone monitoring requirement. The current monitoring network meets the population-based requirements in 40 C.F.R § 58 Appendix D, which requires a minimum of two sites each in the St. Louis, Kansas City and Springfield areas. The Fayetteville-Springdale-Rogers CBSA is now entirely within Arkansas and no longer includes McDonald County in Missouri ([US Census Bureau, Metropolitan and Micropolitan Statistical Areas Map, March 2020](#)).

The Fellows Lake ozone monitoring site in Springfield was relocated as proposed in Appendix 2 of the 2022 Monitoring Network Plan. The owner of the site requested the relocation. The department completed the move after the end of the 2022 ozone season and before the start of the 2023 ozone season. The Fellows Lake site is designated as urban scale, representative of an area with dimensions on the order of four to 50 kilometers, or 2.5 to 30 miles (40 C.F.R. § 58, Appendix D). The new site is approximately one-half mile west of the previous site and is therefore representative of the same air mass. Therefore, data continuity will not be affected by the relocation.

2023 Missouri Ozone (O₃) Monitoring Network*, NAAQS=70 ppb (8 hour)
(Numbers in Parentheses are 2020-2022 Design Values)



*No changes to the O₃ network are proposed in this plan.

6. PM₁₀ Monitoring Network

The department discontinued collocated FRM PM₁₀ monitoring at Blair Street in St. Louis in February 2018. EPA no longer requires the colocation of the manual PM₁₀ sampler (40 C.F.R. § 58 Appendix A, 3.3.4). The department designated the continuous PM₁₀ from the Teledyne API T640X FEM monitor as primary and discontinued the primary FRM PM₁₀ monitor at the site effective July 1, 2019. The Teledyne API T640X also reports PM_{Coarse} for the Blair NCore requirements.

The St. Louis CBSA includes four PM₁₀ sites (not including the microscale Forest Park site), enough to meet the minimum monitoring requirement of four to eight sites specified in 40 C.F.R. § 58 Appendix D, 4.6. This monitor count includes the Granite City Fire Station site in Illinois, which the Illinois Environmental Protection Agency expects to continue operating based on communication with that agency.

The department performed a site evaluation at the Branch St. site in the St. Louis CBSA in April 2023. The evaluation identified two items which may not meet the requirements in federal regulation in 40 C.F.R. § 58 Appendix E. A potential obstruction as described in 40 C.F.R. § 58 Appendix E.4.(b) and a nearby unpaved area as defined in 40 C.F.R. § 58 Appendix E.3.(a) were identified as items of concern during the evaluation. The department and EPA Region 7 staff jointly visited the site on May 31, 2023 in order to follow up on the evaluation performed on April 26, 2023. After consultation with EPA Region 7 and further review of the applicable regulations, the department has found that the site is meeting the regulatory requirements of 40 CFR Part 58 Appendix E.4(a) and 40 CFR Part 58 Appendix E.3(a).

The PM₁₀ monitors at Front Street in Missouri and JFK in Kansas meet the minimum monitoring requirement of two to four sites in the Kansas City CBSA. KDHE will continue monitoring PM₁₀ at the JFK site, as confirmed by correspondence with KDHE staff, because it is an NCore site, as stated in the [2021 Kansas Air Monitoring Network Plan](#).

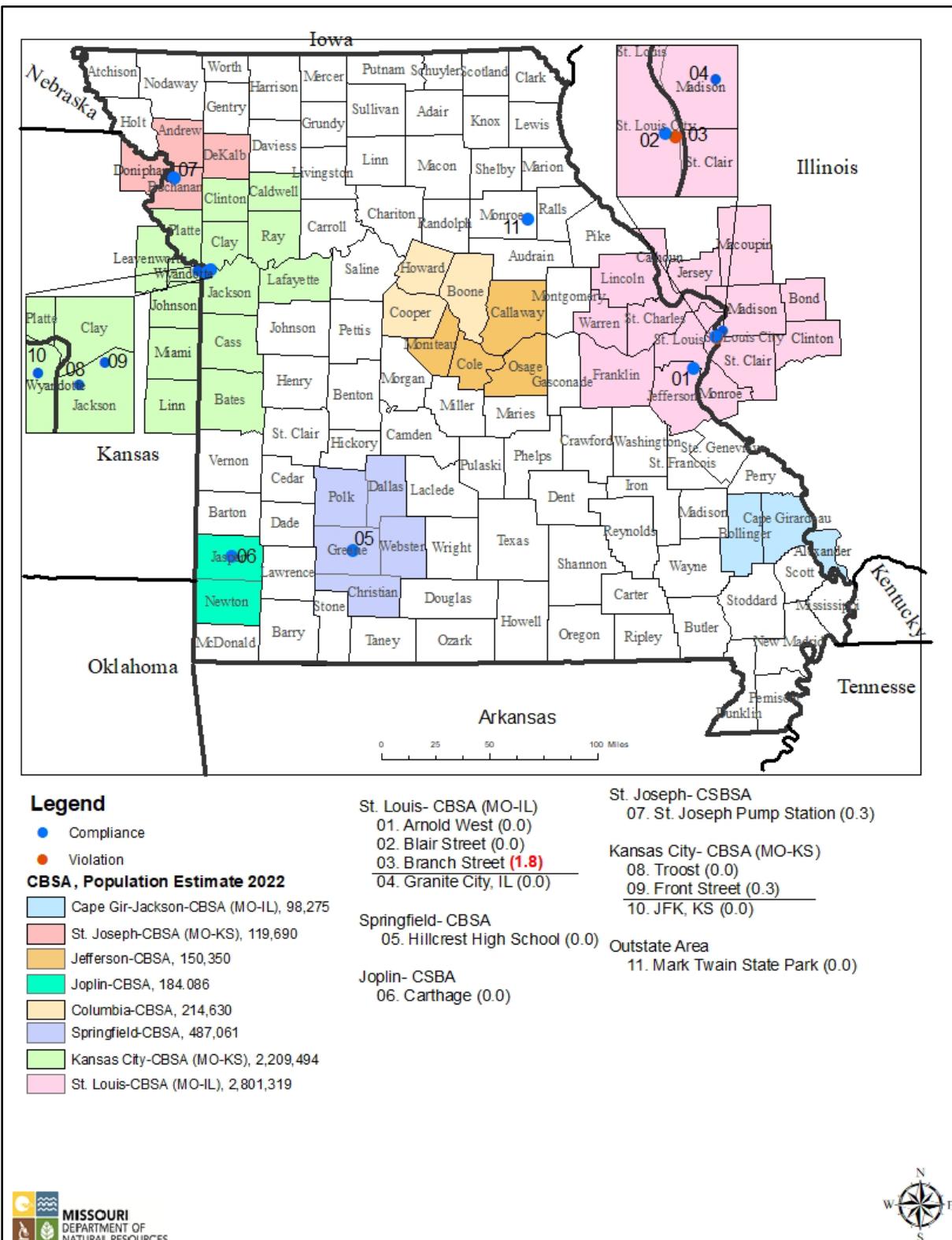
In February 2019, the department began monitoring PM₁₀ and PM_{2.5} at Troost in Kansas City with a Teledyne API T640X instrument as an SPM for ongoing evaluation of the performance of that instrument. Similarly, in February 2022, the department began monitoring PM₁₀ and PM_{2.5} at Hillcrest High School in Springfield with a Teledyne API T640X instrument as an SPM for ongoing evaluation of the performance of that instrument.

The PM₁₀ minimum monitoring requirement in the Springfield CBSA is zero to one, and monitoring at the Hillcrest High School site meets this requirement. The 2022 estimated population of the Springfield CBSA is 487,061. If this population increases to 500,000 or more, the minimum requirement will increase to one to two sites, and the Springfield CBSA will continue to meet the monitoring requirement.

The Fayetteville-Springdale-Rogers CBSA is now entirely within Arkansas and no longer includes McDonald County in Missouri.

The department installed a collocated PM₁₀ TEOM-1400ab monitor at the Carthage site in April 2016 and will continue to operate it because of the importance of that site being near a source.

2023 Missouri PM₁₀ Monitoring Network*, NAAQS=150 µg/m³ (24 hour).
(Numbers in Parentheses are 2019-2021 Design Values)



*No changes to the PM₁₀ network are proposed in this plan.

7. Nitrogen Dioxide (NO₂) Monitoring Network

The 2010 revisions to the NO₂ NAAQS require two near-road NO₂ monitoring sites in the St. Louis CBSA and one in the Kansas City CBSA. The department established the first St. Louis area site in January 2013, the Kansas City area site in July 2013 and the second near-roadway site in the St. Louis area in January 2015.

The first St. Louis area near-roadway site, Forest Park, is adjacent to I-64 west of downtown St. Louis. Air monitoring results at that site are consistent with commuter traffic, heaviest on weekday mornings. The second St. Louis area site, Rider Trail I-70, is adjacent to Interstate 70, just west of Interstate 270. Interstate 70 extends across the United States and carries through traffic in addition to commuter traffic and other local traffic. Therefore, the fleet mix and congestion patterns, relative to time of day and day of the week, are different than at the Forest Park site.

The department discontinued monitoring at the Kansas City area near-roadway site, Blue Ridge I-70 in May 2023 because of site security issues. The department plans to establish a new Kansas City area near-roadway site by Jan. 1, 2024. The department will keep EPA Region 7 staff informed during the site selection process and will seek approval from EPA on the site selection prior to placing the site.

The Troost site in Kansas City meets the requirement for community-wide monitoring in CBSAs with a population larger than 1 million (40 C.F.R. § 58 Appendix D, 4.3.3(a)). Blair Street meets the requirement in St. Louis. Both the Kansas City and St. Louis areas exceed the requirement with monitoring at the JFK site and East St. Louis site, respectively.

40 C.F.R. § 58, Appendix D, 4.3.4 includes the following additional requirement for NO₂ monitoring:

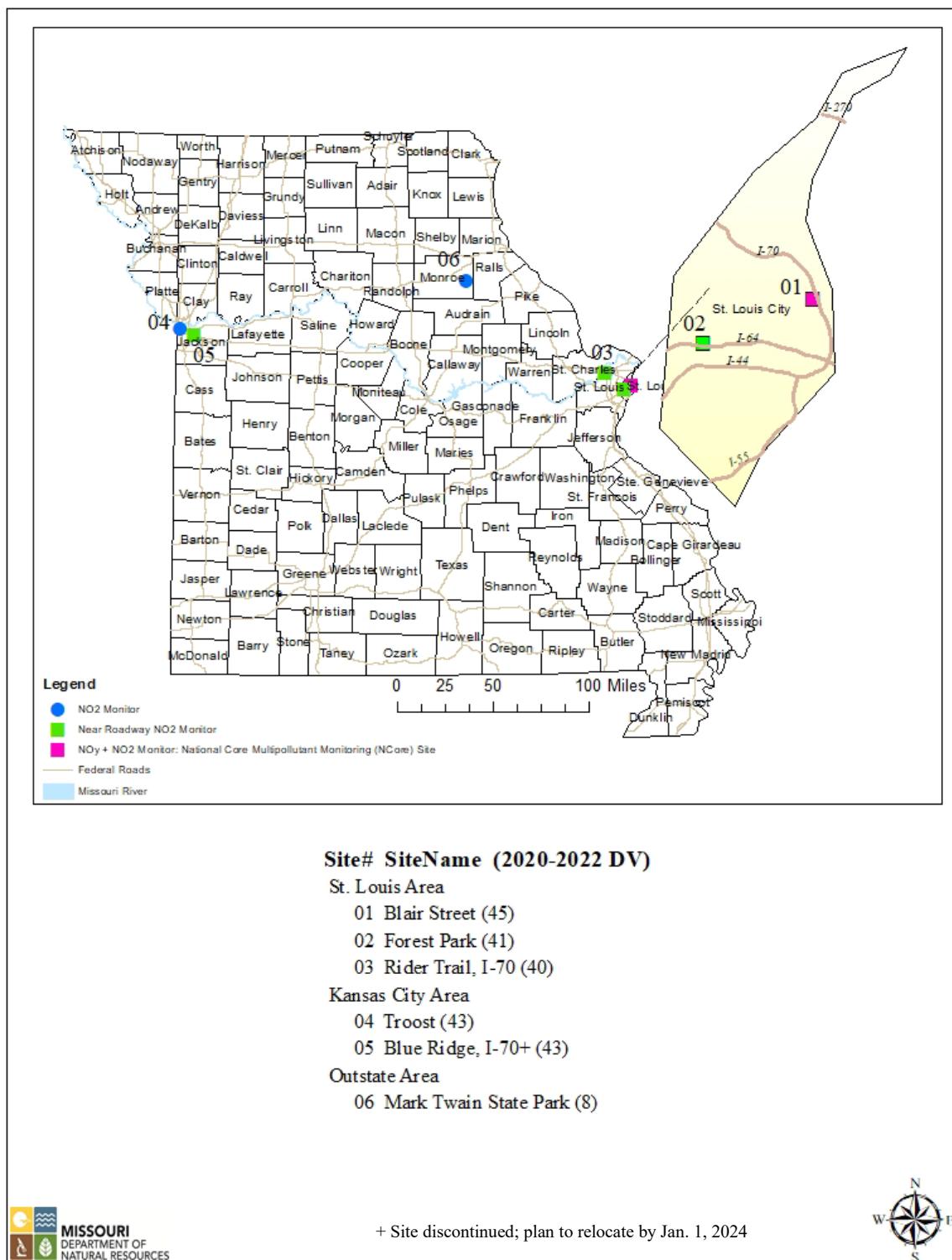
“4.3.4 Regional Administrator Required Monitoring

1. The Regional Administrators, in collaboration with States, must require a minimum of forty additional NO₂ monitoring stations nationwide in any area, inside or outside of CBSAs, above the minimum monitoring requirements, with a primary focus on siting these monitors in locations to protect susceptible and vulnerable populations....”

The department discontinued NO₂ monitoring at the Margaretta site at the beginning of 2019 and requested that EPA designate Blair Street as a site located in an area where susceptible and vulnerable populations live, work and play, therefore meeting this requirement.

The department replaced the photolytic NO₂ monitor at the Blair Street site with a cavity attenuated phase shift CAPS) NO/NO₂/NO_x analyzer in June 2022. Both instrument types satisfy the requirement for True NO₂ monitoring as part of the PAMS program (see Section 9) and supplement the required NO_y monitoring at the Blair Street NCore site.

**2023 Missouri Nitrogen Dioxide (NO₂) Monitoring Network*, NAAQS=100 ppb (1 hour).
(Numbers in Parentheses are 2020-2022 Design Values)**

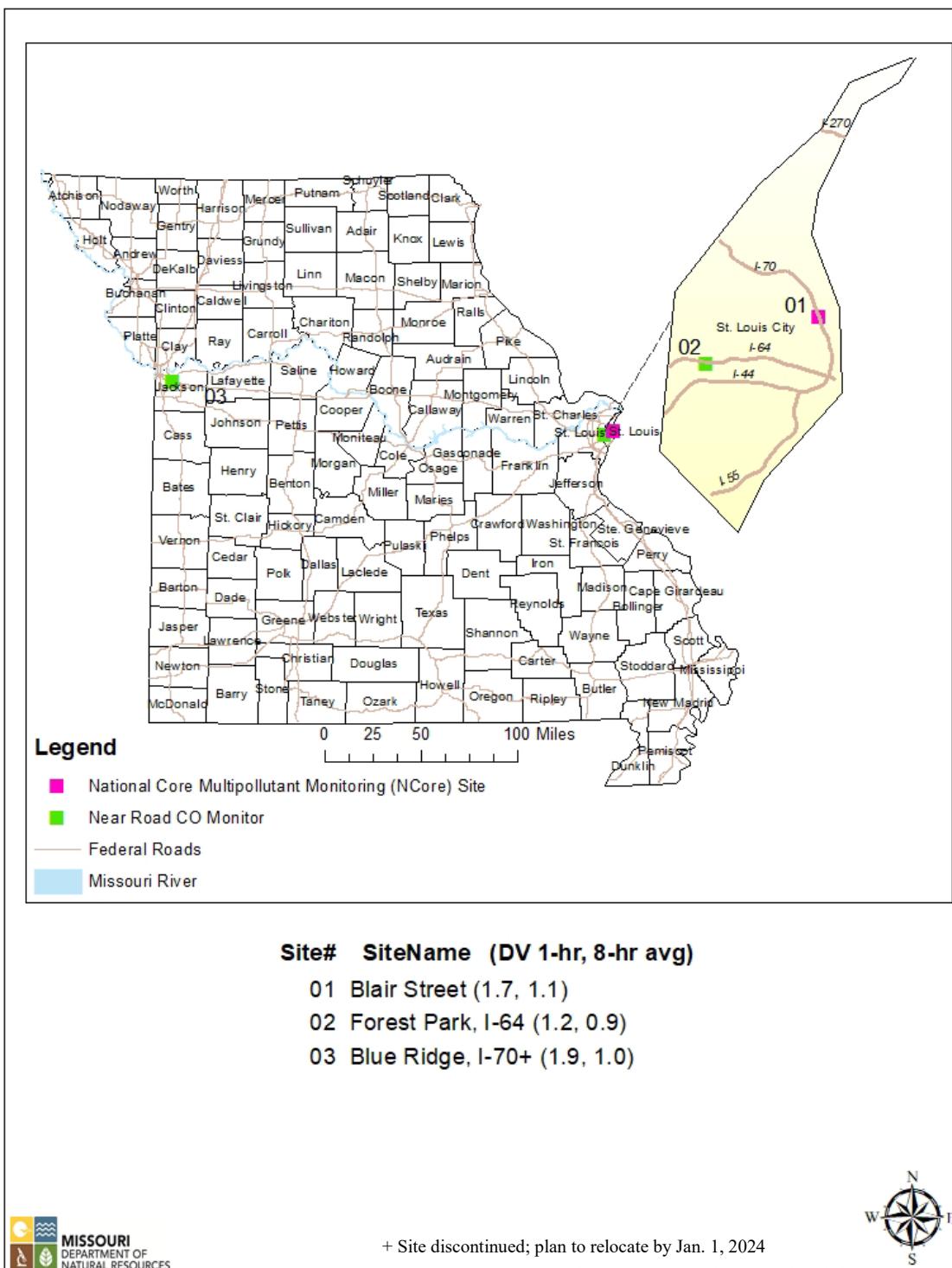


*The Blue Ridge I-70 site will be replaced by a new Kansas City area near-roadway site. No other changes to the NO₂ network are proposed in this plan.

8. Carbon Monoxide (CO) Monitoring Network

The 2013 NAAQS rule for CO requires near-road CO monitoring at one site in the St. Louis CBSA. The department established CO monitoring sites at the same time as the NO₂ monitoring sites at the Forest Park I-40/64 and Blue Ridge I-70 near-roadway monitoring sites. The department discontinued monitoring at the Blue Ridge I-70 in May 2023 because of site security issues. The department plans to establish a new Kansas City area near-roadway site by Jan. 1, 2024 (see Section 7). The department is not proposing any other changes to the CO monitoring network in this plan.

2023 Missouri Carbon Monoxide (CO) Monitoring Network*, NAAQS=35 ppm (1 hour), 9 ppm (8 hour). (Numbers in Parentheses are 2020-2022 Design Values for the 1-hour and 8-hour Standards)



*The Blue Ridge I-70 site will be replaced by a new Kansas City area near-roadway site. No other changes to the CO network are proposed in this plan.

9. Photochemical Assessment Monitoring Station

In previous versions of the Monitoring Network Plan, this section served as the Photochemical Assessment Monitoring Station (PAMS) Implementation Plan. PAMS monitoring began in June 2021. This section now describes an ongoing program.

9.1 Introduction: Regulatory Requirements and Guidance Documents

The “National Ambient Air Quality Standards for Ozone; Final Rule,” (*Federal Register*, volume 80, number 206, Oct. 26, 2015), included amendment of 40 C.F.R. § 58, Appendix D (5) to include the following:

“5. NETWORK DESIGN FOR PHOTOCHEMICAL ASSESSMENT MONITORING STATIONS (PAMS) AND ENHANCED OZONE MONITORING

1. State and local monitoring agencies are required to collect and report PAMS measurements at each NCORE site required under paragraph 3(a) of this appendix located in a CBSA with a population of 1,000,000 or more, based on the latest available census figures.
2. PAMS measurements will include:
 - (1) Hourly averaged speciated volatile organic compounds (VOCs);
 - (2) Three 8-hour averaged carbonyl samples per day on a 1 in 3 day schedule, or hourly averaged formaldehyde;
 - (3) Hourly averaged O₃;
 - (4) Hourly averaged nitrogen oxide (NO), true nitrogen dioxide (NO₂), and total reactive nitrogen (NO_y);
 - (5) Hourly averaged ambient temperature;
 - (6) Hourly vector-averaged wind direction;
 - (7) Hourly vector-averaged wind speed;
 - (8) Hourly average atmospheric pressure;
 - (9) Hourly averaged relative humidity;
 - (10) Hourly precipitation;
 - (11) Hourly averaged mixing-height;
 - (12) Hourly averaged solar radiation; and
 - (13) Hourly averaged ultraviolet radiation...

(g) At a minimum, the monitoring agency shall collect the required PAMS measurements during the months of June, July and August.”

The same rule included amendment of 40 C.F.R. § 58.10 (a) (10) to include the following:

“A plan for making Photochemical Assessment Monitoring Stations (PAMS) measurements, if applicable, in accordance with the requirements of appendix D paragraph 5(a) of this part shall be submitted to the EPA Regional Administrator no later

than July 1, 2018. The plan shall provide for the required PAMS measurements to begin by June 1, 2019.”

Primarily because of delays in national procurement of some of the required equipment for PAMS measurement, EPA revised this regulation to change the required start date for PAMS measurement to June 1, 2021 (*Federal Register*, volume 85, number 5, Jan. 8, 2020, page 834).

EPA has published a guidance document entitled *PAMS Required Sites Quality Assurance Implementation Plan [QAIP]*, October 2016. The QAIP provides guidance for both EPA and monitoring organizations in implementation of the above-referenced PAMS requirements. The QAIP includes the following recommendations:

“Monitoring organization PAMS Implementation Plan: The monitoring organization Implementation Plan document will specify how the monitoring organization will perform the measurements for the Required Network. The plan will include details on activities such as monitoring site location, costs and schedule of events, among other information. The plan will also include any waivers to siting or monitoring methods.” (Page 13).

“Monitoring organizations should have their PAMS waivers and Required Network Implementation Plans finalized by July 2017 and must have them completed by the end of October 2017.²⁰

²⁰ The regulation requires that monitoring organization Required Network IPs be developed in their Annual Network Plans due July 2018. However, in order to be operational by June 2019, it would be beneficial to have plans finalized by the end of October 2017.” (Page 21).

EPA provided additional guidance including a PAMS Technical Assistance Document (TAD), finalized in 2019, and a national QAPP, finalized in 2020, and draft standard operating procedures for PAMS instrument systems. EPA updated the PAMS TAD and national QAPP in May 2023. EPA also conducts monthly conference calls to disseminate information and guidance on PAMS monitoring.

Section 9 of the 2018 (and 2019 and 2020) Monitoring Network Plan(s) fulfilled the regulatory requirement in 40 C.F.R. § 58.10 (a) (10) for submittal of a PAMS Implementation Plan by July 2018. The 2017 Monitoring Network Plan included an early version of the plan to meet the recommended schedule in the QAIP for submittal by July 2017 in advance of the regulatory requirement. The department completed a QAPP for the PAMS project based on the national QAPP in 2021 and updated that QAPP in 2022 and 2023.

9.2 PAMS Measurements

The department conducts PAMS monitoring at the Blair Street Station in St. Louis. The Blair Street Station is an NCore site in a CBSA with a population of greater than 1 million. The JFK site in Kansas City, Kansas is the NCore site and PAMS site in the Kansas City CBSA according

to the [2021 Kansas Air Monitoring Network Plan](#). PAMS monitoring began at Blair Street in 2021. As long as the regulatory requirements are in place and funding is available to support this activity, monitoring will continue during the months of June, July and August each year. The department will report data from PAMS monitoring to EPA's AQS database except for carbonyl and mixing height data as noted below.

The department has not requested any of the waivers from EPA described in 40 C.F.R. § 58, Appendix D (5) (c) through (f).

Each of the required measurements in 40 C.F.R. § 58, Appendix D (5) (b) is discussed below.

9.2.1. Hourly Averaged Speciated Volatile Organic Compounds (VOCs)

EPA evaluated several gas chromatographs (GC) designed to measure concentrations of hourly average speciated VOCs. EPA contracted with two of the vendors of these GC systems to provide instruments to each monitoring organization required to conduct PAMS monitoring. The department selected the Consolidated Analytical Systems (CAS)/Chromatotec AirmOzone Auto-Gas Chromatograph with Flame Ionization Detection. The department received and installed the GC in fall 2020.

The following Revised PAMS Target List lists target compounds for this measurement (carbonyl compounds included in the table are measured in samples described under 9.2.2 below).

9.2.2 Three 8-hour Averaged Carbonyl Samples per Day on a 1 in 3 Day Schedule, or Hourly Averaged Formaldehyde

The department operates a sampler capable of collecting multiple 8-hour samples using derivatized sorbent tubes according to EPA method TO-11A. Analysis of TO-11A samples for the carbonyls listed in the following table (identified by footnote b) is being made available by EPA using its national contract analytical laboratory. The contract laboratory will also enter the carbonyl data into EPA's AQS database.

9.2.3 Hourly Averaged O₃

Hourly averaged ozone is measured at Blair Street as a part of the NCore requirements (see Section 5).

Revised PAMS Target List^a

From EPA Memorandum, Oct. 2, 2017, “[Additional Revisions to the Photochemical Assessment Monitoring Stations Compound Target List](#)”

Existing Priority Compounds	Optional Compounds
1,2,3-Trimethylbenzene	1,3 Butadiene
1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene
1-Butene	1-Pentene
2,2,4-Trimethylpentane	2,2-Dimethylbutane
Acetaldehyde ^b	2,3,4-Trimethylpentane
Benzene	2,3-Dimethylbutane
Cis-2-Butene	2,3-Dimethylpentane
Ethane	2,4-Dimethylpentane
Ethylbenzene	2-Methylheptane
Ethylene	2-Methylhexane
Formaldehyde ^b	2-Methylpentane
Isobutane	3-Methylheptane
Isopentane	3-Methylhexane
Isoprene	3-Methylpentane
M/P Xylene	Acetone
M-Ethyltoluene	Acetylene
N-Butane	Alpha Pinene
N-Hexane	Benzaldehyde ^b
N-Pentane	Beta Pinene
O-Ethyltoluene	Cis-2-Pentene
O-Xylene	Carbon Tetrachloride
P-Ethyltoluene	Cyclohexane
Propane	Cyclopentane
Propylene	Ethanol
Styrene	Isopropylbenzene
Toluene	M-Diethylbenzene
Trans-2-Butene	Methylcyclohexane
	Methylcyclopentane
	N-Decane
	N-Heptane
	N-Nonane
	N-Octane
	N-Propylbenzene
	N-Undecane
	P-Diethylbenzene
	Tetrachloroethylene
	Trans-2-Pentene

^a This table only includes individual target compounds. Monitoring agencies should continue measuring and reporting total non-methane organic compounds (TNMOC)

^b These compounds are carbonyls and are measured using Method TO-11a

9.2.4 Hourly Averaged Nitrogen Oxide (NO), True Nitrogen Dioxide (NO₂) and Total Reactive Nitrogen (NO_y)

NO and NO_y are measured at Blair Street as a part of the NCore requirements. The department replaced the photolytic NO₂ instrument at Blair Street in June 2022 with a cavity attenuated phase shift spectroscopy (CAPS) NO/NO₂/NO_x analyzer designated as FEM that will provide NO and NO_x in addition to the true NO₂ measurement.

9.2.5-9.2.10 Hourly Averaged Ambient Temperature, Hourly Vector-Averaged Wind Direction, Hourly Vector-Averaged Wind Speed, Hourly Averaged Atmospheric Pressure, Hourly Averaged Relative Humidity, and Hourly Precipitation

The department measures temperature, wind direction, wind speed, atmospheric pressure, relative humidity and precipitation at Blair Street.

9.2.11 Hourly Averaged Mixing Height

EPA provided funding for the procurement of a ceilometer, which is an instrument that uses a laser to measure mixing height. The department operates a Vaisala CL-51 ceilometer at the Blair Street site. The department will transfer data from the ceilometer to a national network at the University of Maryland, Baltimore County (UMBC) that is processing ceilometer data. UMBC will input mixing height data into EPA's AQS database.

9.2.12 Hourly Averaged Solar Radiation

Solar radiation is measured at Blair Street.

9.2.13 Hourly Averaged Ultraviolet Radiation

The department operates an ultraviolet radiation measurement instrument at Blair Street.

Network Description/Components

See Appendix 1 for the Network Description, which includes the following components:

Site Data

All ambient air monitoring sites are recorded in the EPA's AQS database. Site data include:

AQS Site Code

The site code includes a numerical designation for state, county and individual site. The state and county codes are assigned a number based on the alphabetical order of the state or county. In most counties, site numbers are assigned sequentially by date established. St. Louis County sites also have a division for municipality within St. Louis County.

Street Address

The official post office address of the lot where the monitors are located. Because not all sites are located in cities or towns, the street address is occasionally given as the intersection of the nearest streets or highways.

Geographical Coordinates

The coordinate system used by the department is latitude and longitude.

Air Quality Control Region

Air Quality Control Regions (AQCR) are defined by EPA and designate either urban regions, like St. Louis or Kansas City, or rural sections of a state, such as northeast or southwest Missouri.

AQCR	AQCR Name
070	Metropolitan St. Louis
094	Metropolitan Kansas City
137	Northern Missouri
138	Southeast Missouri
139	Southwest Missouri

Core Based Statistical Area

Core Based Statistical Areas (CBSA) are defined by the U.S. Census Bureau.

CBSA Code	CBSA Name
00000	Not in a CBSA
16020	Cape Girardeau-Jackson, Missouri-Illinois
17860	Columbia
27620	Jefferson City
27900	Joplin
28140	Kansas City, Missouri-Kansas
41140	St. Joseph, Missouri-Kansas
41180	St. Louis, Missouri-Illinois
44180	Springfield

Monitor Data

Each monitor is designed to detect a specific chemical pollutant or group of related pollutants. A site may have one or many monitors and not all sites will have the same monitors. Monitor data include:

Pollutant

The common name of the pollutant. Criteria pollutants are defined by statute in the Clean Air Act.

AQS Pollutant Code

Each pollutant has a unique numerical code. PAMS pollutant codes are listed in the PAMS QAPP.

Pollutant Code	Pollutant
14129	Lead – Local Conditions (LC)
42101	Carbon Monoxide
42401	Sulfur Dioxide
42406	Sulfur Dioxide 5-minute
42600	Reactive Oxides of N (NO _y)
42601	Nitric Oxide
42602	Nitrogen Dioxide
42603	Oxides of Nitrogen
44201	Ozone
61103	Resultant Wind Speed
61104	Resultant Wind Direct
62101	Outdoor Temperature
62107	Indoor Temperature
62201	Relative Humidity
63301	Solar Radiation
63302	Ultraviolet Radiation
64101	Barometric Pressure
68105	Average Ambient Temperature
68108	Sample Barometric Pressure
81102	PM ₁₀
88313	Black Carbon-LC
85101	PM ₁₀ – LC
85129	Lead PM10 LC - FRM/FEM
86101	PMCoarse – LC (FRM Difference)
88101	PM _{2.5} FRM
88500	PM _{2.5} Total Atmospheric
88502	PM _{2.5} AQI/Speciation
88503	PM _{2.5} Reference
61106	Sigma Theta
62106	Temperature Difference
65102	Precipitation
88314	UV Carbon PM _{2.5} -Local Condition

85102	Antimony
85103	Arsenic PM ₁₀ LC
85107	Barium PM ₁₀ LC
85109	Bromine PM ₁₀ LC
85110	Cadmium PM ₁₀ LC
85111	Calcium PM ₁₀ LC
85112	Chromium PM ₁₀ LC
85113	Cobalt PM ₁₀ LC
85114	Copper PM ₁₀ LC
85126	Iron PM ₁₀ LC
85128	Lead PM ₁₀ LC
85132	Manganese PM ₁₀ LC
85136	Nickel PM ₁₀ LC
85142	Mercury PM ₁₀ LC
85154	Selenium PM ₁₀ LC
85160	Tin PM ₁₀ LC
85161	Titanium PM ₁₀ LC
85164	Vanadium PM ₁₀ LC
85166	Silver PM ₁₀ LC
85167	Zinc PM ₁₀ LC
85173	Thallium PM ₁₀ LC
85180	Potassium PM ₁₀ LC
88160	Tin PM ₁₀ LC
	<u>Organic Carbon Chemical Speciation Network Unadjusted</u>
88305	PM _{2.5} LC TOT
88312	Total Carbon PM _{2.5} LC TOT
88316	Optical Elemental Carbon PM _{2.5} LC TOT

Parameter Occurrence Code

The Parameter Occurrence Code (POC) distinguishes between different monitors for the same pollutant, most often collocated monitors used for precision and quality assurance. For PM_{2.5}, different parameter occurrence codes are assigned to FRM, collocated FRM, continuous and speciation monitors.

Collocated

Collocated monitors are used for precision and quality assurance activities, and for redundancy for critical pollutants such as ozone.

Sampling Frequency

Sampling frequency varies for each pollutant, depending on the nature of the NAAQS and the technology used in the monitoring method. Most gaseous pollutants, PM_{2.5} and PM₁₀ monitors use continuous monitoring FEM methods and are averaged over one hour. Some particulate pollutants are filter-based FRM methods and averaged over one day.

Scale of Representation

Each monitor is intended to represent an area with similar pollutant concentration. The scales range from only a few meters to many kilometers.

- MIC** **Microscale** - Defines the concentration in air volumes associated with area dimensions ranging from several meters up to about 100 meters.
- MID** **Middle** - Defines the concentration typical of areas up to several city blocks in size with dimensions ranging from about 100 meters to 0.5 kilometers.
- NBR** **Neighborhood** - Defines concentrations within an extended area of a city that has relatively uniform land use with dimensions of 0.5 to 4.0 kilometers.
- URB** **Urban** - Defines an overall citywide condition with dimensions on the order of 4 to 50 kilometers.
- REG** **Regional** - Defines air quality levels over areas having dimensions of 50 to hundreds of kilometers.

Monitor Type/Network Affiliation

The monitor's administrative classification is determined by the purpose for the monitor in the agency sampling strategy. Assignment of monitor types "NCORE" and "PAMS" is limited to EPA headquarters and is done only after a complete review and approval for all site or monitor metadata.

Code	Description
IMPROVE	IMPROVE or IMPROVE Protocol
INDEX SITE	(not currently used by Missouri)
INDUSTRIAL	Used to indicate sites operated by an industry
Primary Quality Assurance Organization (PQAO)	Primary Quality Assurance Organization (PQAO)
NATTS	National Air Toxics Trends Station
NEAR ROAD	Near Road monitoring station
NCORE	National Core monitoring station
NON-EPA FEDERAL	(not currently used by Missouri)
NON-REGULATORY	Not used for NAAQS compliance
PAMS	Photochemical Assessment Monitoring Stations
PROPOSED NCORE	Proposed NCORE
QA COLLOCATED	Collocated to Satisfy 40 C.F.R 58 Appendix A
SLAMS	State or Local Air Monitoring Station
SPECIAL PURPOSE	Special Purpose Monitoring Station (SPM or SPMS)
SUPLMNTL SPECIATION	Supplemental Speciation
TRENDS SPECIATION	Trends Speciation
TRIBAL MONITORS	(not currently used by Missouri)
UNOFFICIAL PAMS	(not currently used by Missouri)

State Monitoring Objective

Each monitor has a distinct objective such as providing real-time data for public awareness or use in determining compliance with regulations. The state monitoring objective provides more information about the purpose of the monitoring in addition to the monitor objective required of 40 C.F.R. § 58.10(a)(6).

State Objective Code	Objective
AQI	Public Information
COM	NAAQS Compliance
MET	Meteorological Data
RES	Research
SIP	State Implementation Plan
SPP	Special Purpose Project
STA	State Standard

Units

The physical terms used to quantify the pollutant concentration, such as parts per million or micrograms per cubic meter.

Unit Code	Unit Description
001	$\mu\text{g}/\text{m}^3$
007	parts per million
008	parts per billion
011	meters per second
012	miles per hour
013	knots
014	degree, compass
015	degree Fahrenheit
016	millibars
017	degree Celsius
018	Langleys
019	percent humidity
021	inches
022	inches Mercury
025	Langleys per minute
059	Millimeter (Mercury)
073	Liters/minute STP-Flow
077	Micrograms
079	Watts/ m^2
083	Cubic meter/minute
105	$\mu\text{g}/\text{m}^3$ LC
106	Minutes
107	Percent
118	Liters/minute LC-Flow
119	Cubic meters/minute LC-Flow
121	parts per trillion

Monitoring/Analytical Method

Each monitor relies on a scientific principle to determine the pollutant concentration, which is described by the sampling method. Each method code is specific for a particular pollutant; therefore a three numeral code may be used for different methods for different pollutants. This is required by 40 C.F.R. § 58.10(a)(3).

Monitoring Objective

This is the primary monitoring objective(s) for the monitoring parameter required by 40 C.F.R. § 58.10(a)(6). The monitoring objective is specific to the pollutant. Some sites may have more than one monitoring objective, but the primary objective is listed first.

Appendix 1: Missouri Monitoring Network Description

Missouri Ambient Air Monitoring Network



MIC	<i>Microscale (Several meters up to about 100 meters)</i>
MID	<i>Middle (100 meters to 0.5 kilometer)</i>
NBR	<i>Neighborhood (0.5 to 4.0 kilometers range)</i>
URB	<i>Urban (4 to 50 kilometers)</i>
REG	<i>Regional (Tens to hundreds of kilometers)</i>
COM	<i>National Ambient Air Quality Standards (NAAQS) Compliance</i>
MET	<i>Meteorological Data</i>
N/A	<i>Not Applicable</i>
NCore	<i>National Multi-Pollutant Monitoring Stations</i>
NON-A	<i>Non-Ambient Site</i>
NON-R	<i>Non-Regulatory</i>
PQAO	<i>Primary Quality Assurance Organization</i>
RES	<i>Research</i>
SLAMS	<i>State and Local Monitoring Stations</i>
SIP	<i>State Implementation Plan</i>
SPEC	<i>Speciation</i>
STA	<i>State Standard</i>
SPM	<i>Special Purpose Monitoring</i>
SPP	<i>Special Purpose Project</i>
Coll	<i>Collocated monitor. A secondary monitor at a site.</i>
PAMS	<i>Photochemical Assessment Monitoring Stations</i>

Ameren Missouri (PQAO - 1440)

Labadie "Plant" Site

AQS Site Number **29-071-9003**

~1.5 km south of the Labadie Energy Center, Labadie, MO 63055

Latitude: 38.5486 **AQCR:** 070 Metropolitan St. Louis

Longitude: -90.83725 **MSA:** 7040 St. Louis, MO-IL

Elevation (ft): 680

Parameter	AQS Code	AQS Monitor Type	AQS POC	AQS Coll	AQS Freq	AQS Scale	State-Obj	AQS Unit-Code	AQS Unit	AQS Method Code	AQS Method	AQS Monitor Objective
Std Dev Hz Wind Direction	61106	Industrial	1	<input type="checkbox"/>	1	N/A	MET	014	deg	127	Scintec MFAS Sodar/RASS Acoustic Sounder	Other (40m)
Std Dev Hz Wind Direction	61106	Industrial	2	<input type="checkbox"/>	1	N/A	MET	014	deg	127	Scintec MFAS Sodar/RASS Acoustic Sounder	Other (60m)
Std Dev Hz Wind Direction	61106	Industrial	3	<input type="checkbox"/>	1	N/A	MET	014	deg	127	Scintec MFAS Sodar/RASS Acoustic Sounder	Other (80m)
Std Dev Hz Wind Direction	61106	Industrial	4	<input type="checkbox"/>	1	N/A	MET	014	deg	127	Scintec MFAS Sodar/RASS Acoustic Sounder	Other (100m)
Std Dev Hz Wind Direction	61106	Industrial	5	<input type="checkbox"/>	1	N/A	MET	014	deg	127	Scintec MFAS Sodar/RASS Acoustic Sounder	Other (120m)
Std Dev Hz Wind Direction	61106	Industrial	6	<input type="checkbox"/>	1	N/A	MET	014	deg	127	Scintec MFAS Sodar/RASS Acoustic Sounder	Other (140m)
Std Dev Hz Wind Direction	61106	Industrial	7	<input type="checkbox"/>	1	N/A	MET	014	deg	127	Scintec MFAS Sodar/RASS Acoustic Sounder	Other (160m)

Std Dev Hz Wind Direction 61106	Industrial	8	<input type="checkbox"/>	1	N/A	MET	014	deg	127	Scintec MFAS Sodar/RASS Acoustic Sounder	Other (180m)	
Std Dev Hz Wind Direction 61106	Industrial	9	<input type="checkbox"/>	1	N/A	MET	014	deg	127	Scintec MFAS Sodar/RASS Acoustic Sounder	Other (200m)	
Std Dev Hz Wind Direction 61106	Industrial	10	<input type="checkbox"/>	1	N/A	MET	014	deg	127	Scintec MFAS Sodar/RASS Acoustic Sounder	Other (220m)	
Std Dev Hz Wind Direction 61106	Industrial	11	<input type="checkbox"/>	1	N/A	MET	014	deg	127	Scintec MFAS Sodar/RASS Acoustic Sounder	Other (240m)	
Std Dev Hz Wind Direction 61106	Industrial	12	<input type="checkbox"/>	1	N/A	MET	014	deg	127	Scintec MFAS Sodar/RASS Acoustic Sounder	Other (260m)	
Std Dev Hz Wind Direction 61106	Industrial	13	<input type="checkbox"/>	1	N/A	MET	014	deg	127	Scintec MFAS Sodar/RASS Acoustic Sounder	Other (280m)	
Std Dev Hz Wind Direction 61106	Industrial	14	<input type="checkbox"/>	1	N/A	MET	014	deg	127	Scintec MFAS Sodar/RASS Acoustic Sounder	Other (300m)	
Temperature Virtual	62102	Industrial	1	<input type="checkbox"/>	1	N/A	MET	017	deg C	128	Scintec MFAS Sodar/RASS Radar Profiler	Other (40m)
Temperature Virtual	62102	Industrial	2	<input type="checkbox"/>	1	N/A	MET	017	deg C	128	Scintec MFAS Sodar/RASS Radar Profiler	Other (60m)
Temperature Virtual	62102	Industrial	3	<input type="checkbox"/>	1	N/A	MET	017	deg C	128	Scintec MFAS Sodar/RASS Radar Profiler	Other (80m)
Temperature Virtual	62102	Industrial	4	<input type="checkbox"/>	1	N/A	MET	017	deg C	128	Scintec MFAS Sodar/RASS Radar Profiler	Other (100m)

Temperature Virtual	62102	Industrial	5	<input type="checkbox"/>	1	N/A	MET	017	deg C	128	Scintec MFAS Sodar/RASS Radar Profiler	Other (120m)
Temperature Virtual	62102	Industrial	6	<input type="checkbox"/>	1	N/A	MET	017	deg C	128	Scintec MFAS Sodar/RASS Radar Profiler	Other (140m)
Temperature Virtual	62102	Industrial	7	<input type="checkbox"/>	1	N/A	MET	017	deg C	128	Scintec MFAS Sodar/RASS Radar Profiler	Other (160m)
Temperature Virtual	62102	Industrial	8	<input type="checkbox"/>	1	N/A	MET	017	deg C	128	Scintec MFAS Sodar/RASS Radar Profiler	Other (180m)
Temperature Virtual	62102	Industrial	9	<input type="checkbox"/>	1	N/A	MET	017	deg C	128	Scintec MFAS Sodar/RASS Radar Profiler	Other (200m)
Temperature Virtual	62102	Industrial	10	<input type="checkbox"/>	1	N/A	MET	017	deg C	128	Scintec MFAS Sodar/RASS Radar Profiler	Other (220m)
Temperature Virtual	62102	Industrial	11	<input type="checkbox"/>	1	N/A	MET	017	deg C	128	Scintec MFAS Sodar/RASS Radar Profiler	Other (240m)
Temperature Virtual	62102	Industrial	12	<input type="checkbox"/>	1	N/A	MET	017	deg C	128	Scintec MFAS Sodar/RASS Radar Profiler	Other (260m)
Temperature Virtual	62102	Industrial	13	<input type="checkbox"/>	1	N/A	MET	017	deg C	128	Scintec MFAS Sodar/RASS Radar Profiler	Other (280m)
Temperature Virtual	62102	Industrial	14	<input type="checkbox"/>	1	N/A	MET	017	deg C	128	Scintec MFAS Sodar/RASS Radar Profiler	Other (300m)

Wind Direction - Resultant 61104	Industrial 1	<input type="checkbox"/>	1	N/A	MET	014	deg	127	Scintec MFAS Sodar/RASS Acoustic Sounder	Other (40m)
Wind Direction - Resultant 61104	Industrial 2	<input type="checkbox"/>	1	N/A	MET	014	deg	127	Scintec MFAS Sodar/RASS Acoustic Sounder	Other (60m)
Wind Direction - Resultant 61104	Industrial 3	<input type="checkbox"/>	1	N/A	MET	014	deg	127	Scintec MFAS Sodar/RASS Acoustic Sounder	Other (80m)
Wind Direction - Resultant 61104	Industrial 4	<input type="checkbox"/>	1	N/A	MET	014	deg	127	Scintec MFAS Sodar/RASS Acoustic Sounder	Other (100m)
Wind Direction - Resultant 61104	Industrial 5	<input type="checkbox"/>	1	N/A	MET	014	deg	127	Scintec MFAS Sodar/RASS Acoustic Sounder	Other (120m)
Wind Direction - Resultant 61104	Industrial 6	<input type="checkbox"/>	1	N/A	MET	014	deg	127	Scintec MFAS Sodar/RASS Acoustic Sounder	Other (140m)
Wind Direction - Resultant 61104	Industrial 7	<input type="checkbox"/>	1	N/A	MET	014	deg	127	Scintec MFAS Sodar/RASS Acoustic Sounder	Other (160m)
Wind Direction - Resultant 61104	Industrial 8	<input type="checkbox"/>	1	N/A	MET	014	deg	127	Scintec MFAS Sodar/RASS Acoustic Sounder	Other (180m)
Wind Direction - Resultant 61104	Industrial 9	<input type="checkbox"/>	1	N/A	MET	014	deg	127	Scintec MFAS Sodar/RASS Acoustic Sounder	Other (200m)
Wind Direction - Resultant 61104	Industrial 10	<input type="checkbox"/>	1	N/A	MET	014	deg	127	Scintec MFAS Sodar/RASS Acoustic Sounder	Other (220m)
Wind Direction - Resultant 61104	Industrial 11	<input type="checkbox"/>	1	N/A	MET	014	deg	127	Scintec MFAS Sodar/RASS Acoustic Sounder	Other (240m)

Wind Direction - Resultant	61104	Industrial	12	<input type="checkbox"/>	1	N/A	MET	014	deg	127	Scintec MFAS Sodar/RASS Acoustic Sounder	Other (260m)
Wind Direction - Resultant	61104	Industrial	13	<input type="checkbox"/>	1	N/A	MET	014	deg	127	Scintec MFAS Sodar/RASS Acoustic Sounder	Other (280m)
Wind Speed - Resultant	61104	Industrial	14	<input type="checkbox"/>	1	N/A	MET	014	deg	127	Scintec MFAS Sodar/RASS Acoustic Sounder	Other (300m)
Wind Speed - Resultant	61103	Industrial	1	<input type="checkbox"/>	1	N/A	MET	011	m/s	127	Scintec MFAS Sodar/RASS Acoustic Sounder	Other (40m)
Wind Speed - Resultant	61103	Industrial	2	<input type="checkbox"/>	1	N/A	MET	011	m/s	127	Scintec MFAS Sodar/RASS Acoustic Sounder	Other (60m)
Wind Speed - Resultant	61103	Industrial	3	<input type="checkbox"/>	1	N/A	MET	011	m/s	127	Scintec MFAS Sodar/RASS Acoustic Sounder	Other (80m)
Wind Speed - Resultant	61103	Industrial	4	<input type="checkbox"/>	1	N/A	MET	011	m/s	127	Scintec MFAS Sodar/RASS Acoustic Sounder	Other (100m)
Wind Speed - Resultant	61103	Industrial	5	<input type="checkbox"/>	1	N/A	MET	011	m/s	127	Scintec MFAS Sodar/RASS Acoustic Sounder	Other (120m)
Wind Speed - Resultant	61103	Industrial	6	<input type="checkbox"/>	1	N/A	MET	011	m/s	127	Scintec MFAS Sodar/RASS Acoustic Sounder	Other (140m)
Wind Speed - Resultant	61103	Industrial	7	<input type="checkbox"/>	1	N/A	MET	011	m/s	127	Scintec MFAS Sodar/RASS Acoustic Sounder	Other (160m)
Wind Speed - Resultant	61103	Industrial	8	<input type="checkbox"/>	1	N/A	MET	011	m/s	127	Scintec MFAS Sodar/RASS Acoustic Sounder	Other (180m)

Wind Speed - Resultant	61103	Industrial	9	<input type="checkbox"/>	1	N/A	MET	011	m/s	127	Scintec MFAS Sodar/RASS Acoustic Sounder	Other (200m)
Wind Speed - Resultant	61103	Industrial	10	<input type="checkbox"/>	1	N/A	MET	011	m/s	127	Scintec MFAS Sodar/RASS Acoustic Sounder	Other (220m)
Wind Speed - Resultant	61103	Industrial	11	<input type="checkbox"/>	1	N/A	MET	011	m/s	127	Scintec MFAS Sodar/RASS Acoustic Sounder	Other (240m)
Wind Speed - Resultant	61103	Industrial	12	<input type="checkbox"/>	1	N/A	MET	011	m/s	127	Scintec MFAS Sodar/RASS Acoustic Sounder	Other (260m)
Wind Speed - Resultant	61103	Industrial	13	<input type="checkbox"/>	1	N/A	MET	011	m/s	127	Scintec MFAS Sodar/RASS Acoustic Sounder	Other (280m)
Wind Speed - Resultant	61103	Industrial	14	<input type="checkbox"/>	1	N/A	MET	011	m/s	127	Scintec MFAS Sodar/RASS Acoustic Sounder	Other (300m)
WS - Sigma Theta (Vertical)	61110	Industrial	1	<input type="checkbox"/>	1	N/A	MET	011	m/s	127	Scintec MFAS Sodar/RASS Acoustic Sounder	Other (40m)
WS - Sigma Theta (Vertical)	61110	Industrial	2	<input type="checkbox"/>	1	N/A	MET	011	m/s	127	Scintec MFAS Sodar/RASS Acoustic Sounder	Other (60m)
WS - Sigma Theta (Vertical)	61110	Industrial	3	<input type="checkbox"/>	1	N/A	MET	011	m/s	127	Scintec MFAS Sodar/RASS Acoustic Sounder	Other (80m)
WS - Sigma Theta (Vertical)	61110	Industrial	4	<input type="checkbox"/>	1	N/A	MET	011	m/s	127	Scintec MFAS Sodar/RASS Acoustic Sounder	Other (100m)

WS - Sigma Theta (Vertical)	61110	Industrial	5	<input type="checkbox"/>	1	N/A	MET	011	m/s	127	Scintec MFAS Sodar/RASS Acoustic Sounder	Other (120m)
WS - Sigma Theta (Vertical)	61110	Industrial	6	<input type="checkbox"/>	1	N/A	MET	011	m/s	127	Scintec MFAS Sodar/RASS Acoustic Sounder	Other (140m)
WS - Sigma Theta (Vertical)	61110	Industrial	7	<input type="checkbox"/>	1	N/A	MET	011	m/s	127	Scintec MFAS Sodar/RASS Acoustic Sounder	Other (160m)
WS - Sigma Theta (Vertical)	61110	Industrial	8	<input type="checkbox"/>	1	N/A	MET	011	m/s	127	Scintec MFAS Sodar/RASS Acoustic Sounder	Other (180m)
WS - Sigma Theta (Vertical)	61110	Industrial	9	<input type="checkbox"/>	1	N/A	MET	011	m/s	127	Scintec MFAS Sodar/RASS Acoustic Sounder	Other (200m)
WS - Sigma Theta (Vertical)	61110	Industrial	10	<input type="checkbox"/>	1	N/A	MET	011	m/s	127	Scintec MFAS Sodar/RASS Acoustic Sounder	Other (220m)
WS - Sigma Theta (Vertical)	61110	Industrial	11	<input type="checkbox"/>	1	N/A	MET	011	m/s	127	Scintec MFAS Sodar/RASS Acoustic Sounder	Other (240m)
WS - Sigma Theta (Vertical)	61110	Industrial	12	<input type="checkbox"/>	1	N/A	MET	011	m/s	127	Scintec MFAS Sodar/RASS Acoustic Sounder	Other (260m)
WS - Sigma Theta (Vertical)	61110	Industrial	13	<input type="checkbox"/>	1	N/A	MET	011	m/s	127	Scintec MFAS Sodar/RASS Acoustic Sounder	Other (280m)
WS - Sigma Theta (Vertical)	61110	Industrial	14	<input type="checkbox"/>	1	N/A	MET	011	m/s	127	Scintec MFAS Sodar/RASS Acoustic Sounder	Other (300m)

Labadie, North

~150 ft. north of Terry Rd and ~200 ft. Kingfisher Ct, Augusta, MO 63332

Latitude:	38.59557	AQCR:	070	Metropolitan St. Louis
Longitude:	-90.82864	MSA:	7040	St. Louis, MO-IL
Elevation (ft):	816	AQS		
Parameter	AQS Code	Monitor Type	AQS POC Coll	AQS Freq
Sulfur Dioxide	42401	Industrial	1	<input type="checkbox"/> 1
Sulfur Dioxide Max 5-min Avg	42406	Industrial	1	<input type="checkbox"/> 1

Parameter	AQS Code	Monitor Type	AQS POC Coll	AQS Freq	AQS Scale Obj	State-Obj	AQS Unit-Code	AQS Unit-Code	AQS Method	AQS Code	AQS Method	AQS Objective
Sulfur Dioxide	42401	Industrial	1	<input type="checkbox"/>	1	MID	COM	008	ppb	100	Ultra-violet Fluorescence	Source Oriented
Sulfur Dioxide Max 5-min Avg	42406	Industrial	1	<input type="checkbox"/>	1	MID	COM	008	ppb	100	Ultra-violet Fluorescence	Source Oriented

Labadie, Northwest

Rt. 94, Augusta, MO 63332 near the intersection with Schluersburg Road

Latitude:	38.5818	AQCR:	070	Metropolitan St. Louis
Longitude:	-90.865528	MSA:	7040	St. Louis, MO-IL
Elevation (ft):	550	AQS		
Parameter	AQS Code	Monitor Type	AQS POC Coll	AQS Freq

Outdoor Temperature	62101	Industrial	2	<input type="checkbox"/>	1	N/A	MET	017	deg C	040	Electronic Averaging	Other (10m Probe Height)
Outdoor Temperature	62101	Industrial	1	<input type="checkbox"/>	1	N/A	MET	116	Temp Diff deg C	041	Instrumental: Elect or Mach Avg Lev 2-Lev1	Other (10m - 2m Probe Heights)

Relative Humidity	62201	Industrial	1	<input type="checkbox"/>	1	N/A	MET	019	%humidity	061	Met One 083D	Other
Std Dev Hz Wind Direction	61106	Industrial	1	<input type="checkbox"/>	1	N/A	MET	014	deg	063	Arithmetic Standard Deviation	Other (10m Tower)
Std Dev Vt Wind Direction	61107	Industrial	1	<input type="checkbox"/>	1	N/A	MET	014	deg	020	Arithmetic Standard Deviation	Other (10m Tower)
Sulfur Dioxide	42401	Industrial	1	<input type="checkbox"/>	1	MID	COM	008	ppb	100	Ultra-violet Fluorescence	Source Oriented
Sulfur Dioxide Max 5-min Avg	42406	Industrial	1	<input type="checkbox"/>	1	MID	COM	008	ppb	100	Ultra-violet Fluorescence	Source Oriented
Wind Direction - Resultant	61104	Industrial	1	<input type="checkbox"/>	1	N/A	MET	014	deg	020	Vector Summation	Other (10m Tower)
Wind Direction - Scalar	61102	Industrial	1	<input type="checkbox"/>	1	N/A	MET	014	deg	063	Climatronics	Other (10m Tower)
Wind Speed - Resultant	61103	Industrial	1	<input type="checkbox"/>	1	N/A	MET	011	m/s	020	Vector Summation	Other (10m Tower)
Wind Speed - Scalar	61101	Industrial	1	<input type="checkbox"/>	1	N/A	MET	011	m/s	063	Climatronics	Other (10m Tower)

Wind Speed - Vertical	61109	Industrial	1	<input type="checkbox"/>	1	N/A	MET	011	m/s	020	Electronic Averaging	Other (10m Tower)
WS - Sigma Theta (Vertical)	61110	Industrial	1	<input type="checkbox"/>	1	N/A	MET	011	m/s	020	Arithmetic Standard Deviation	Other (10m Tower)

Labadie, Southwest

870 Albertina Lane, Labadie, MO 63055

Parameter	AQSO Code	AQSM Monitor Type	AQSO POC Coll	AQSO Freq	AQSO Scale	AQSO Obj	State-Unit	AQSO Code	AQSO Unit	AQSO Method	AQSO Code	AQSM Monitor Objective
Sulfur Dioxide Avg	42401	Industrial	1	<input type="checkbox"/>	1	MID	COM	008	ppb	100	Ultra-violet Fluorescence	Source Oriented

Sulfur Dioxide Max 5-min Avg

Sulfur Dioxide Max 5-min Avg	42406	Industrial	1	<input type="checkbox"/>	1	MID	COM	008	ppb	100	Ultra-violet Fluorescence	Source Oriented
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Labadie, Valley Site

2901 Labadie Bottom Road, Labadie, MO 63055

Parameter	AQSO Code	AQSM Monitor Type	AQSO POC Coll	AQSO Freq	AQSO Scale	AQSO Obj	State-Unit	AQSO Code	AQSO Unit	AQSO Method	AQSO Code	AQSM Monitor Objective
Barometric Pressure	64101	Industrial	1	<input type="checkbox"/>	1	N/A	MET	016	Millbars	015	Instrumental-Barometric Transducer	Other

Sulfur Dioxide Max 5-min Avg	42406	Industrial	1	<input type="checkbox"/>	1	MID	COM	008	pb	100	Ultra-violet Fluorescence	Source Oriented
Wind Direction - Resultant	61104	Industrial	1	<input type="checkbox"/>	1	N/A	MET	014	deg	020	Vector Summation	Other (10m Tower)
Wind Direction - Scalar	61102	Industrial	1	<input type="checkbox"/>	1	N/A	MET	014	deg	063	Climatronics	Other (10m Tower)
Wind Speed - Resultant	61103	Industrial	1	<input type="checkbox"/>	1	N/A	MET	011	m/s	020	Vector Summation	Other (10m Tower)
Wind Speed - Scalar	61101	Industrial	1	<input type="checkbox"/>	1	N/A	MET	011	m/s	063	Climatronics	Other (10m Tower)
Wind Speed - Vertical	61109	Industrial	1	<input type="checkbox"/>	1	N/A	MET	011	m/s	020	Electronic Averaging	Other (10m Tower)
WS - Sigma Theta (Vertical)	61110	Industrial	1	<input type="checkbox"/>	1	N/A	MET	011	m/s	020	Arithmetic Standard Deviation	Other (10m Tower)

Rush Island, Fults, Site, IL

Off Ivy Road, Fults, IL 62244

Latitude: 38.15908 **AQCR:** 138 SE Missouri

Longitude: -90.22728 **MSA:** 0000 Not in an MSA

Elevation (ft): 446

Parameter	AQS Code	Monitor Type	AQS POC Coll	AQS Freq	AQS Scale Obj	State-Unit-Code	AQS Unit	AQS Method	AQS Code	AQS Method	AQS Monitor	AQS Objective
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AQS Site Number 17-133-9001

Barometric Pressure	64101	Industrial	1	<input type="checkbox"/>	1	N/A	MET	016	Millibars	015	Instrumental-Barometric Pressure Transducer	Other
Outdoor Temperature	62101	Industrial	2	<input type="checkbox"/>	1	N/A	MET	017	deg C	040	Electronic Averaging	Other (10m Probe Height)
Outdoor Temperature	62101	Industrial	3	<input type="checkbox"/>	1	N/A	MET	017	deg C	040	Electronic Averaging	Other (2m Probe Height)
Outdoor Temperature Diff	62106	Industrial	1	<input type="checkbox"/>	1	N/A	MET	116	Temp Diff deg C	041	Instrument: Elect or Mach Avg Lev 2-Lev1	Other (10m - 2m Probe Heights)
Precipitation	65102	Industrial	1	<input type="checkbox"/>	1	N/A	MET	021	inches	014	Heated Tipping Bucket	Other
Relative Humidity	62201	Industrial	1	<input type="checkbox"/>	1	N/A	MET	019	%humidity	061	Met One 083D	Other
Solar Radiation	63301	Industrial	1	<input type="checkbox"/>	1	N/A	MET	079	W/m^2	011	Instrumental-Pyranometer	Other
Std Dev Hz Wind Direction	61106	Industrial	1	<input type="checkbox"/>	1	N/A	MET	014	deg	063	Arithmetic Standard Deviation	Other (10m Tower)
Std Dev Vt Wind Direction	61107	Industrial	1	<input type="checkbox"/>	1	N/A	MET	014	deg	020	Arithmetic Standard Deviation	Other (10m Tower)

Sulfur Dioxide	42401	Industrial	1	<input type="checkbox"/>	1	MID	COM	008	ppb	100	Ultra-violet Fluorescence	Source Oriented
Sulfur Dioxide Max 5-min Avg	42406	Industrial	1	<input type="checkbox"/>	1	MID	COM	008	ppb	100	Ultra-violet Fluorescence	Source Oriented
Wind Direction - Resultant	61104	Industrial	1	<input type="checkbox"/>	1	N/A	MET	014	deg	020	Vector Summation	Other (10m Tower)
Wind Direction - Scalar	61102	Industrial	1	<input type="checkbox"/>	1	N/A	MET	014	deg	063	Climatronics	Other (10m Tower)
Wind Speed - Resultant	61103	Industrial	1	<input type="checkbox"/>	1	N/A	MET	011	m/s	020	Vector Summation	Other (10m Tower)
Wind Speed - Scalar	61101	Industrial	1	<input type="checkbox"/>	1	N/A	MET	011	m/s	063	Climatronics	Other (10m Tower)
Wind Speed - Vertical	61109	Industrial	1	<input type="checkbox"/>	1	N/A	MET	011	m/s	020	Electronic Averaging	Other (10m Tower)
WS - Sigma Theta (Vertical)	61110	Industrial	1	<input type="checkbox"/>	1	N/A	MET	011	m/s	020	Arithmetic Standard Deviation	Other (10m Tower)

Rush Island, Johnson Tall Tower

AQS Site Number 29-099-9008

600 Johnson Rd., Festus, MO 63028

Latitude: 38.11999 **AQCR:** 070 Metropolitan St. Louis

Longitude: -90.28214 **MSA:** 7040 St. Louis, MO-IL

Elevation (ft): 656

Parameter	AQS Code	AQS Monitor Type	AQS POC Coll	AQS Freq	AQS Scale Obj	AQS Unit	AQS Code	AQS Unit	AQS Method	AQS Code	AQS Method	AQS Objective
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Outdoor Temperature 62101 Industrial 2 1 N/A MET 017 deg C 040 Electronic Averaging Other (62.5m Probe Height)

Outdoor Temperature 62101 Industrial 3 1 N/A MET 017 deg C 040 Electronic Averaging Other (132.5m Probe Height)

Outdoor Temperature Diff 62106 Industrial 1 1 N/A MET 116 Temp Diff deg C 041 Instrumental: Elect or Mach Avg Lev 2-Lev 1 (132.5m-62.5m Probe Heights)

Std Dev Hz Wind Direction 61106 Industrial 1 1 N/A MET 014 deg 063 Arithmetic Standard Deviation Other (132.5m, 15 min)

Std Dev Hz Wind Direction 61106 Industrial 2 1 N/A MET 014 deg 063 Arithmetic Standard Deviation Other (132.5m, 60 min)

Std Dev Hz Wind Direction 61106 Industrial 3 1 N/A MET 014 deg 063 Arithmetic Standard Deviation Other (62.5m, A-15 min)

Std Dev Hz Wind Direction 61106 Industrial 4 1 N/A MET 014 deg 063 Arithmetic Standard Deviation Other (62.5m, A-60 min)

Std Dev Hz Wind Direction 61106 Industrial 5 1 N/A MET 014 deg 063 Arithmetic Standard Deviation Other (62.5m, B-15 min)

Std Dev Hz Wind Direction 61106	Industrial	6	<input type="checkbox"/>	1	N/A	MET	014	deg	063	Arithmetic Standard Deviation	Other (62.5m, B-60 min)
Std Dev Vt Wind Direction 61107	Industrial	1	<input type="checkbox"/>	1	N/A	MET	014	deg	020	Arithmetic Standard Deviation	Other (132.5m, 15 min)
Std Dev Vt Wind Direction 61107	Industrial	2	<input type="checkbox"/>	1	N/A	MET	014	deg	020	Arithmetic Standard Deviation	Other (132.5m, 60min)
Std Dev Vt Wind Direction 61107	Industrial	3	<input type="checkbox"/>	1	N/A	MET	014	deg	020	Arithmetic Standard Deviation	Other (62.5m, A-15 min)
Std Dev Vt Wind Direction 61107	Industrial	4	<input type="checkbox"/>	1	N/A	MET	014	deg	020	Arithmetic Standard Deviation	Other (62.5m, A-60min)
Std Dev Vt Wind Direction 61107	Industrial	5	<input type="checkbox"/>	1	N/A	MET	014	deg	020	Arithmetic Standard Deviation	Other (62.5m, B-15 min)
Std Dev Vt Wind Direction 61107	Industrial	6	<input type="checkbox"/>	1	N/A	MET	014	deg	020	Arithmetic Standard Deviation	Other (62.5m, B-60 min)
Wind Direction - Resultant 61104	Industrial	1	<input type="checkbox"/>	1	N/A	MET	014	deg	020	Vector Summation	Other (132.5m Probe Height)
Wind Direction - Resultant 61104	Industrial	2	<input type="checkbox"/>	1	N/A	MET	014	deg	020	Vector Summation	Other (62.5m Probe Height)
Wind Direction - Resultant 61104	Industrial	3	<input type="checkbox"/>	1	N/A	MET	014	deg	020	Vector Summation	Other (62.5m Probe Height)

Wind Direction - Scalar	61102	Industrial	1	<input type="checkbox"/>	1	N/A	MET	014	deg	063	Climatronics	Other (62.5m Probe Height)
Wind Direction - Scalar	61102	Industrial	2	<input type="checkbox"/>	1	N/A	MET	014	deg	063	Climatronics	Other (62.5m Probe Height)
Wind Direction - Scalar	61102	Industrial	3	<input type="checkbox"/>	1	N/A	MET	014	deg	063	Climatronics	Other (62.5m Probe Height)
Wind Speed - Resultant	61103	Industrial	1	<input type="checkbox"/>	1	N/A	MET	011	m/s	020	Vector Summation	Other (132.5m Probe Height)
Wind Speed - Resultant	61103	Industrial	2	<input type="checkbox"/>	1	N/A	MET	011	m/s	020	Vector Summation	Other (132.5m Probe Height)
Wind Speed - Resultant	61103	Industrial	3	<input type="checkbox"/>	1	N/A	MET	011	m/s	020	Vector Summation	Other (62.5m Probe Height)
Wind Speed - Scalar	61101	Industrial	1	<input type="checkbox"/>	1	N/A	MET	011	m/s	063	Climatronics	Other (132.5m Probe Height)
Wind Speed - Scalar	61101	Industrial	2	<input type="checkbox"/>	1	N/A	MET	011	m/s	063	Climatronics	Other (62.5m Probe Height)
Wind Speed - Scalar	61101	Industrial	3	<input type="checkbox"/>	1	N/A	MET	011	m/s	063	Climatronics	Other (62.5m Probe Height)
Wind Speed - Vertical	61109	Industrial	1	<input type="checkbox"/>	1	N/A	MET	011	m/s	020	Electronic Averaging	Other (132.5m Probe Height)

Wind Speed - Vertical	61109	Industrial	2	<input type="checkbox"/>	1	N/A	MET	011	m/s	020	Electronic Averaging	Other (62.5m Probe Height)
Wind Speed - Vertical	61109	Industrial	3	<input type="checkbox"/>	1	N/A	MET	011	m/s	020	Electronic Averaging	Other (62.5m Probe Height)
WS - Sigma Theta (Vertical)	61110	Industrial	1	<input type="checkbox"/>	1	N/A	MET	011	m/s	020	Arithmetic Standard Deviation	Other (132.5m Probe Height)
WS - Sigma Theta (Vertical)	61110	Industrial	2	<input type="checkbox"/>	1	N/A	MET	011	m/s	020	Arithmetic Standard Deviation	Other (62.5m Probe Height)
WS - Sigma Theta (Vertical)	61110	Industrial	3	<input type="checkbox"/>	1	N/A	MET	011	m/s	020	Arithmetic Standard Deviation	Other (62.5m Probe Height)

Rush Island, Natchez

AQS Site Number **29-099-9009**

917 Natchez Trace Drive, Bloomsdale, MO 63627

Latitude: 38.10525 **AQCR:** 070 Metropolitan St. Louis

Longitude: -90.29842 **MSA:** 7040 St. Louis, MO-IL

Elevation (ft): 505

Parameter	AQS Code	AQS Monitor Type	AQS POC	AQS Coll	AQS Freq	AQS Scale	State- Obj	AQS Unit- Code	AQS Unit	AQS Method Code	AQS Method	AQS Monitor Objective

Sulfur Dioxide	42401	Industrial	1	<input type="checkbox"/>	1	MID	COM	008	ppb	100	Ultra-violet Fluorescence	Source Oriented
Sulfur Dioxide Max 5-min Avg	42406	Industrial	1	<input type="checkbox"/>	1	MID	COM	008	ppb	100	Ultra-violet Fluorescence	Source Oriented

Rush Island, Weaver Road & Highway AA

AQS Site Number 29-099-9007

802 Weaver Road, Festus, MO 63028

Latitude: 38.144972

AQCR: 070

Metropolitan St. Louis

Longitude: -90.304783

MSA: 7040

St. Louis, MO-IL

Elevation (ft): 502

AQS

Monitor

AQS

POC

Coll

Freq

Scale

Obj

AQS

Unit

AQS

Unit

AQS

Method

AQS

Code

Unit

Code

Method

Objective

Sulfur Dioxide 42401 Industrial 1 1 MID COM 008 ppb 100 Ultra-violet Fluorescence Source Oriented

Sulfur Dioxide Max 5-min Avg 42406 Industrial 1 1 MID COM 008 ppb 100 Ultra-violet Fluorescence Source Oriented

Doe Run Buick (PQAO - 1290)

County Road 75

AQS Site Number 29-093-9010

98 Iron County Road, Bixby, MO 65439

Latitude: 37.64876 **AQCR:** 138 SE Missouri

Longitude: -91.14980 **MSA:** 0000 Not in an MSA

Elevation (ft): 1365

Parameter	AQS Code	AQS Monitor Type	AQS POC	AQS Coll	AQS Freq	AQS Scale	State-Obj	AQS Unit-Code	AQS Unit	AQS Method Code	AQS Method	AQS Monitor Objective
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Sulfur Dioxide	42401	Industrial	1	<input type="checkbox"/>	1	MID	COM	008	ppb	060	Pulsed Fluorescent	Source Oriented
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Sulfur Dioxide Max 5-min Avg	42406	Industrial	1	<input type="checkbox"/>	1	MID	COM	008	ppb	060	Pulsed Fluorescent	Source Oriented
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Doe Run Buick - Buick NE

AQS Site Number 29-093-9008

346 Power Lane, Bixby West, MO 65439

Latitude: 37.65214 **AQCR:** 138 SE Missouri

Longitude: -91.11689 **MSA:** 0000 Not in an MSA

Elevation (ft): 1423

Parameter	AQS Code	AQS Monitor Type	AQS POC	AQS Coll	AQS Freq	AQS Scale	State-Obj	AQS Unit-Code	AQS Unit	AQS Method Code	AQS Method	AQS Monitor Objective
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Lead (TSP) - LC FRM/FEM	14129	Industrial	1	<input type="checkbox"/>	1/1	MID	COM	105	ug/m^3-LC	192	Inductive Coupled Plasma	Source Oriented
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Doe Run Buick - North #5 (NON-A)

AQS Site Number **29-093-0021**

Doe Run Buick - North#5, Buick, MO 65439

Latitude: 37.65178 **AQCR:** 138 SE Missouri

Longitude: -91.13094 **MSA:** 0000 Not in an MSA

Elevation (ft): 1443

Parameter	AQS Code	AQS Monitor Type	AQS POC	AQS Coll	AQS Freq	AQS Scale	State-Obj	AQS Unit-Code	AQS Unit	AQS Method Code	AQS Method	AQS Monitor Objective
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Lead (TSP) - LC FRM/FEM 14129	Industrial	1	<input type="checkbox"/>	1/6	MID	SIP	105	ug/m^3-LC	192	Inductive Coupled Plasma Spectrometry	Source Oriented
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Doe Run Buick - South #1 (NON-A)

AQS Site Number **29-093-0016**

Doe Run Buick - South#1, Buick, MO 65439

Latitude: 37.62400 **AQCR:** 138 SE Missouri

Longitude: -91.12827 **MSA:** 0000 Not in an MSA

Elevation (ft): 1502

Parameter	AQS Code	AQS Monitor Type	AQS POC	AQS Coll	AQS Freq	AQS Scale	State-Obj	AQS Unit-Code	AQS Unit	AQS Method Code	AQS Method	AQS Monitor Objective
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Lead (TSP) - LC FRM/FEM 14129	Industrial	1	<input type="checkbox"/>	1/6	MID	SIP	105	ug/m^3-LC	192	Inductive Coupled Plasma Spectrometry	Source Oriented
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Lead (TSP) - LC FRM/FEM 14129	Industrial	2	<input checked="" type="checkbox"/>	1/6	MID	SIP	105	ug/m^3-LC	192	Inductive Coupled Plasma Spectrometry	Quality Assurance (Collocation)
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Hwy 32 Northeast

AQS Site Number **29-093-9009**

1582 Highway 32, Bixby, MO 65439

Latitude: 37.65319 **AQCR:** 138 SE Missouri

Longitude: -91.12795 **MSA:** 0000 Not in an MSA

Elevation (ft): 1384

Parameter	AQS Code	AQS Monitor Type	AQS POC	AQS Coll	AQS Freq	AQS Scale	State-Obj	AQS Unit-Code	AQS Unit	AQS Method Code	AQS Method	AQS Monitor Objective
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Sulfur Dioxide	42401	Industrial	1	<input type="checkbox"/>	1	MID	COM	008	ppb	060	Pulsed Fluorescent	Source Oriented
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Sulfur Dioxide Max 5-min Avg	42406	Industrial	1	<input type="checkbox"/>	1	MID	COM	008	ppb	060	Pulsed Fluorescent	Source Oriented
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West Entrance

AQS Site Number **29-093-9011**

18594 Hwy KK, Boss, MO 65440

Latitude: 37.63211 **AQCR:** 138 SE Missouri

Longitude: -91.13565 **MSA:** 0000 Not in an MSA

Elevation (ft): 1463

Parameter	AQS Code	AQS Monitor Type	AQS POC Coll	AQS Freq	AQS Scale	State-Obj	AQS Unit-Code	AQS Unit	AQS Method Code	AQS Method	AQS Monitor Objective
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Sulfur Dioxide	42401	Industrial	1	<input type="checkbox"/>	1	MID	COM	008	ppb	060	Pulsed Fluorescent	Source Oriented
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Sulfur Dioxide Max 5-min Avg	42406	Industrial	1	<input type="checkbox"/>	1	MID	COM	008	ppb	060	Pulsed Fluorescent	Source Oriented
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Doe Run Herculaneum (PQAO - 1290)

Herculaneum, City Hall (Mott Street)

AQS Site Number **29-099-0020**

360 Short Street, Herculaneum, MO, 63048

Latitude: 38.263394 **AQCR:** 070 Metropolitan St. Louis

Longitude: -90.379667 **MSA:** 7040 St. Louis, MO-IL

Elevation (ft): 468

Parameter	AQS	AQS	AQS	AQS	AQS	AQS	AQS	AQS	AQS	AQS
	Code	Monitor Type	POC Coll	Freq	Scale	State-Obj	Unit-Code	Unit	Method Code	Method

Lead (TSP) - LC FRM/FEM 14129	Industrial	1	<input type="checkbox"/>	1/3	MID	COM	105	ug/m^3-LC	192	Inductive Coupled Plasma Spectrometry	Source Oriented & Highest Concentration
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Lead (TSP) - LC FRM/FEM 14129	Industrial	2	<input checked="" type="checkbox"/>	1/6	MID	COM	105	ug/m^3-LC	192	Inductive Coupled Plasma Spectrometry	Quality Assurance (Collocation)
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Herculaneum, Dunklin High School

AQS Site Number **29-099-9002**

1 Black cat Dr., Herculaneum, MO, 63048

Latitude: 38.26703 **AQCR:** 070 Metropolitan St. Louis

Longitude: -90.37875 **MSA:** 7040 St. Louis, MO-IL

Elevation (ft): 445

Parameter	AQS	AQS	AQS	AQS	AQS	AQS	AQS	AQS	AQS	AQS
	Code	Monitor Type	POC Coll	Freq	Scale	State-Obj	Unit-Code	Unit	Method Code	Method

Lead (TSP) - LC FRM/FEM 14129	Industrial	1	<input type="checkbox"/>	1/6	NBR	COM	105	ug/m^3-LC	192	Inductive Coupled Plasma Spectrometry	Source Oriented and Population Exposure
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North Cross, Herculaneum, MO 63048

Latitude: 38.26216 **AQCR:** 070 Metropolitan St. Louis**Longitude:** -90.38126 **MSA:** 7040 St. Louis, MO-IL**Elevation (ft):** 463

Parameter	AQS Code	AQS Monitor Type	AQS POC	AQS Coll	AQS Freq	AQS Scale	State- Obj	AQS Unit- Code	AQS Unit	AQS Method Code	AQS Method	AQS Monitor Objective
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Lead (TSP) - LC FRM/FEM 14129	Industrial	1	<input type="checkbox"/>	1/6	NBR	COM	105	ug/m^3-LC	192	Inductive Coupled Plasma Spectrometry	Source Oriented & Population Exposure
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Environmental Services Program (ESP) [PQAO - 0588]

Alba

AQS Site Number 29-097-0004

20400 Millwood Rd., Alba, MO 64830

Latitude: 37.2385 **AQCR:** 139 SW Missouri

Longitude: -94.42468 **MSA:** 3710 Joplin, MO

Elevation (ft): 965

Parameter	AQS		AQS		AQS		AQS		AQS		AQS	
	AQS Code	Monitor Type	POC	Coll	Freq	Scale	State- Obj	Unit- Code	Unit	Method Code	Method	Monitor Objective

Indoor Temperature	62107	SPM	1	<input type="checkbox"/>	1	N/A	MET	017	deg C	013	Electronic Averaging	Other
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Ozone	44201	SLAMS	1	<input type="checkbox"/>	1	NBR	COM	007	ppm	047	Ultraviolet Photometric	Max Ozone Concentration & Population Exposure
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Ozone	44201	SLAMS	2	<input checked="" type="checkbox"/>	1	NBR	COM	007	ppm	047	Ultraviolet Photometric	-
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Arnold West

AQS Site Number 29-099-0019

1709 Lonedell Dr., Arnold, MO 63010

Latitude: 38.44862 **AQCR:** 070 Metropolitan St. Louis

Longitude: -90.3958 **MSA:** 7040 St. Louis, MO-IL

Elevation (ft): 639

Parameter	AQS		AQS		AQS		AQS		AQS		AQS	
	AQS Code	Monitor Type	POC	Coll	Freq	Scale	State- Obj	Unit- Code	Unit	Method Code	Method	Monitor Objective

Ammonium Ion PM2.5 LC	88301	SLAMS	6	<input type="checkbox"/>	1/6	NBR	RES	105	ug/m^3-LC	812	Met One SASS Nylon	Population Exposure (UC-Davis)
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Barometric Pressure	64101	SPM	1	<input type="checkbox"/>	1	N/A	MET	059	mm (Hg)	014	Instrumental-Barometric Sensor	Other
Indoor Temperature	62107	SPM	1	<input type="checkbox"/>	1	N/A	MET	017	deg C	013	Electronic Averaging	Other
OP CSN_Rev Undj PM2.5 LC TOR	88378	SLAMS	6	<input type="checkbox"/>	1/6	NBR	RES	105	ug/m^3-LC	842	URG 3000N w/Pall Quartz filter & Cyclone Inlet	Population Exposure (UC-Davis)
Outdoor Temperature	62101	SPM	1	<input type="checkbox"/>	1	N/A	MET	017	deg C	040	Electronic Averaging	Other (4m Probe Height)
Ozone	44201	SLAMS	1	<input type="checkbox"/>	1	NBR	COM	007	ppm	047	Ultraviolet Photometric	Population Exposure
Ozone	44201	SLAMS	2	<input checked="" type="checkbox"/>	1	NBR	COM	007	ppm	047	Ultraviolet Photometric	-
PM10 - STP FRM/FEM	81102	SLAMS	3	<input type="checkbox"/>	1	NBR	COM	001	ug/m^3	079	R&P SA246B TEOM	Population Exposure
PM2.5 - LC FRM/FEM	88101	SLAMS	4	<input type="checkbox"/>	1	NBR	COM	105	ug/m^3-LC	181	PM2.5 VSCC FEM or Thermo Scientific 1405-F	Population Exposure
PM2.5 Volatile Channel	88503	SPM	4	<input type="checkbox"/>	1	NBR	AQI	105	ug/m^3-LC	181	PM2.5 VSCC FEM or Thermo Scientific 1405-F	Population Exposure

Relative Humidity	62201	SPM	1	<input type="checkbox"/>	1	N/A	MET	019	%humidity	020	Instrumental-Computed (Indirect)	Other
Wind Direction - Resultant	61104	SPM	1	<input type="checkbox"/>	1	N/A	MET	014	deg	065	Instrumental: RM Young Model 05305	Other (10m Tower)
Wind Speed - Resultant	61103	SPM	1	<input type="checkbox"/>	1	N/A	MET	012	mph	065	Instrumental: RM Young Model 05305	Other (10m Tower)

Blair Street (PM2.5 method to change from 182 to 181) AQS Site Number 29-510-0085

3247 Blair Street, St. Louis, MO 63107

Latitude: 38.65638 **AQCR:** 070 Metropolitan St. Louis

Longitude: -90.19825 **MSA:** 7040 St. Louis, MO-IL

Elevation (ft): 492 **AQS Monitor**

Parameter	AQS Code	AQS Type	AQS POC	AQS Coll	AQS Freq	AQS Scale	AQS Obj	State-Unit	AQS Code	AQS Unit	AQS Method	AQS Code	AQS Method	AQS Objective
1,2,3-trimethylbenzene	45225	PAMS	1	<input type="checkbox"/>	1	URB	PAMS	078	ppbC	128	CAS Auto-Gas Chromatograph			Max precursor emissions impact
1,2,4-trimethylbenzene	45208	PAMS	1	<input type="checkbox"/>	1	URB	PAMS	078	ppbC	128	CAS Auto-Gas Chromatograph			Max precursor emissions impact
1-butene	43280	PAMS	1	<input type="checkbox"/>	1	URB	PAMS	078	ppbC	128	CAS Auto-Gas Chromatograph			Max precursor emissions impact
2,2,4-trimethylpentane	43250	PAMS	1	<input type="checkbox"/>	1	URB	PAMS	078	ppbC	128	CAS Auto-Gas Chromatograph			Max precursor emissions impact

Acetaldehyde	43503	PAMS	1	<input type="checkbox"/>	1	URB	PAMS	078	ppbC	202	CAS Auto-Gas Chromatograph	Max precursor emissions impact
Ammonium Ion PM2.5 LC	88301	SPM	6	<input type="checkbox"/>	1/3	NBR	RES	105	ug/m^3-LC	812	Met One SASS Nylon	
Barometric Pressure	64101	SLAMS	1	<input type="checkbox"/>	1	N/A	MET	059	mm (Hg)	014	Instrumental-Barometric Sensor	Other
Benzene	45201	PAMS	1	<input type="checkbox"/>	1	URB	PAMS	078	ppbC	128	CAS Auto-Gas Chromatograph	Max precursor emissions impact
Black Carbon PM2.5 LC	88313	SLAMS	1	<input type="checkbox"/>	1	NBR	RES	105	ug/m^3-LC	894	Magee Scientific TAPI M633 Aethalometer	Population Exposure
Carbon Monoxide	42101	NCORE	1	<input type="checkbox"/>	1	NBR	COM	007	ppm	593	Teledyne T300U	Population Exposure
cis-2-butene	43217	PAMS	1	<input type="checkbox"/>	1	URB	PAMS	078	ppbC	128	CAS Auto-Gas Chromatograph	Max precursor emissions impact
Ethane	43202	PAMS	1	<input type="checkbox"/>	1	URB	PAMS	078	ppbC	128	CAS Auto-Gas Chromatograph	Max precursor emissions impact
Ethylbenzene	45203	PAMS	1	<input type="checkbox"/>	1	URB	PAMS	078	ppbC	128	CAS Auto-Gas Chromatograph	Max precursor emissions impact

Ethylene	43203	PAMS	1	<input type="checkbox"/>	1	URB	PAMS	078	ppbC	128	CAS Auto-Gas Chromatograph	Max precursor emissions impact
Formaldehyde	43502	PAMS	1	<input type="checkbox"/>	1	URB	PAMS	078	ppbC	202	CAS Auto-Gas Chromatograph	Max precursor emissions impact
Indoor Temperature	62107	SLAMS	1	<input type="checkbox"/>	1	N/A	MET	017	deg C	013	Electronic Averaging	Other (Large Shelter)
Indoor Temperature	62107	SLAMS	2	<input type="checkbox"/>	1	N/A	MET	017	deg C	013	Electronic Averaging	Other (Small Shelter)
Isobutane	43214	PAMS	1	<input type="checkbox"/>	1	URB	PAMS	078	ppbC	128	CAS Auto-Gas Chromatograph	Max precursor emissions impact
Isopentane	43221	PAMS	1	<input type="checkbox"/>	1	URB	PAMS	078	ppbC	128	CAS Auto-Gas Chromatograph	Max precursor emissions impact
Isoprene	43243	PAMS	1	<input type="checkbox"/>	1	URB	PAMS	078	ppbC	128	CAS Auto-Gas Chromatograph	Max precursor emissions impact
Lead PM10 LC	85128	SPM	6	<input type="checkbox"/>	1/6	NBR	RES	108	ng/m^3-LC	907	R&P Partisol 2025 Teflon	Population Exposure (ERG)
Lead PM10 LC	85128	SPM	7	<input checked="" type="checkbox"/>	1/6	NBR	RES	108	ng/m^3-LC	907	R&P Partisol 2025 Teflon	Population Exposure (ERG)
M&P-xylenes	45109	PAMS	1	<input type="checkbox"/>	1	URB	PAMS	078	ppbC	128	CAS Auto-Gas Chromatograph	Max precursor emissions impact

M-ethyltoluene	45212	PAMS	1	<input type="checkbox"/>	1	URB	PAMS	078	ppbC	128	CAS Auto-Gas Chromatograph	Max precursor emissions impact
Mixing Layer Height	61301	PAMS	1	<input type="checkbox"/>	1	NBR	MET	058	m	011	Ceilometer	Max precursor emissions impact
N-butane	43212	PAMS	1	<input type="checkbox"/>	1	URB	PAMS	078	ppbC	128	CAS Auto-Gas Chromatograph	Max precursor emissions impact
N-hexane	43231	PAMS	1	<input type="checkbox"/>	1	URB	PAMS	078	ppbC	128	CAS Auto-Gas Chromatograph	Max precursor emissions impact
Nitric Oxide	42601	NCORE	1	<input type="checkbox"/>	1	NBR	COM	008	ppb	699	Teledyne API 200 EU/501	Population Exposure
Nitric Oxide	42601	SLAMS	3	<input type="checkbox"/>	1	NBR	COM	008	ppb	256	Teledyne API Model N500	Population Exposure
Nitrogen Dioxide	42602	SLAMS	3	<input type="checkbox"/>	1	NBR	COM	008	ppb	256	Teledyne API Model N500	Population Exposure
N-pentane	43220	PAMS	1	<input type="checkbox"/>	1	URB	PAMS	078	ppbC	128	CAS Auto-Gas Chromatograph	Max precursor emissions impact
O-ethyltoluene	45211	PAMS	1	<input type="checkbox"/>	1	URB	PAMS	078	ppbC	128	CAS Auto-Gas Chromatograph	Max precursor emissions impact

OP CSN_Rev Undj PM2.5 LC TOR	88378	SPM	6	<input type="checkbox"/>	1/3	NBR	RES	105	ug/m^3-LC	842	URG 3000N w/Pall Quartz filter & Cyclone Inlet	Highest Concentration (UC-Davis)
Outdoor Temperature	62101	NCORE	1	<input type="checkbox"/>	1	N/A	MET	017	deg C	040	Electronic Averaging	Other (4m Probe Height)
Oxides of Nitrogen	42603	SLAMS	3	<input type="checkbox"/>	1	NBR	COM	008	ppb	256	Teledyne API Model N500	Population Exposure
Ozone	44201	NCORE	1	<input type="checkbox"/>	1	NBR	COM	007	ppm	087	Ultraviolet Absorption	Population Exposure
Ozone	44201	NCORE	2	<input checked="" type="checkbox"/>	1	NBR	COM	007	ppm	087	Ultraviolet Absorption	-
PM10 - LC/FEM/NonFEM	85101	SLAMS	5	<input type="checkbox"/>	1	NBR	COM	105	ug/m^3-LC	790	FDMS- Gravimetric 1405- DF	Population Exposure
PM10 - LC/FEM/NonFEM	85101	SPM	6	<input type="checkbox"/>	1	NBR	RES	105	ug/m^3-LC	239	Teledyne API T640x	Population Exposure
PM10 - STP FRM/FEM	81102	SLAMS	6	<input type="checkbox"/>	1	NBR	RES	001	ug/m^3	239	Teledyne API T640x	Population Exposure
PM2.5 - LC FRM/FEM	88101	NCORE	2	<input type="checkbox"/>	1/3	NBR	COM	105	ug/m^3-LC	145	R&P 2025 Sequential w/VSCC	Quality Assurance (Collocation)
PM2.5 - LC FRM/FEM	88101	SLAMS	4	<input type="checkbox"/>	1	NBR	COM	105	ug/m^3-LC	182	FMDS- Gravimetric 1405- DF	Population Exposure

PM2.5 - LC FRM/FEM	88101	SPM	6	<input type="checkbox"/>	1	NBR	RES	105	ug/m^3-LC	238	Teledyne API T640x	Population Exposure
PM2.5 Tot Atmospheric	88500	SLAMS	1	<input type="checkbox"/>	1	NBR	AQI	105	ug/m^3-LC	790	FDMS-Gravimetric DF	Population 1405- Exposure
PM2.5 Volatile Channel	88503	SLAMS	1	<input type="checkbox"/>	1	NBR	AQI	105	ug/m^3-LC	790	FDMS-Gravimetric DF	Population 1405- Exposure
PMCoarse - LC FRM/FEM	86101	NCORE	6	<input type="checkbox"/>	1	NBR	RES	105	ug/m^3-LC	240	Teledyne API T640x	Population Exposure
PMCoarse - LC FRM/FEM	86101	SLAMS	8	<input type="checkbox"/>	1	NBR	COM	105	ug/m^3-LC	207	FMDS-Gravimetric DF	Population 1405- Exposure
Precipitation	65102	PAMS	1	<input type="checkbox"/>	1	NBR	MET	021	inches	014	Heated Tipping Bucket	Max precursor emissions impact
Propane	45204	PAMS	1	<input type="checkbox"/>	1	URB	PAMS	078	ppbC	128	CAS Auto-Gas Chromatograph	Max precursor emissions impact
Propylene	43205	PAMS	1	<input type="checkbox"/>	1	URB	PAMS	078	ppbC	128	CAS Auto-Gas Chromatograph	Max precursor emissions impact
Reactive Oxides of N (NOY)	42600	NCORE	1	<input type="checkbox"/>	1	NBR	COM	008	ppb	699	Teledyne API 200 EU/501	Population Exposure

Relative Humidity	62201	NCORE	1	<input type="checkbox"/>	1	N/A	MET	019	%humidity	014	Instrumental-Hygrometer C94- Probe	Other
Solar Radiation	63301	SLAMS	1	<input type="checkbox"/>	1	N/A	MET	079	W/m^2	011	Instrumental-Pyranometer	Other
Std Dev Hz Wind Direction 61106		SPM	1	<input type="checkbox"/>	1	N/A	MET	014	deg	020	Arithmetic Standard Deviation	Other (10m Tower)
Styrene	45220	PAMS	1	<input type="checkbox"/>	1	URB	PAMS	078	ppbC	128	CAS Auto-Gas Chromatograph	Max precursor emissions impact
Sulfur Dioxide	42401	NCORE	1	<input type="checkbox"/>	1	NBR	COM	008	ppb	560	Pulsed Fluorescent 43i-TLE	Population Exposure
Sulfur Dioxide Max 5-min Avg	42406	NCORE	1	<input type="checkbox"/>	1	NBR	COM	008	ppb	560	Pulsed Fluorescent	Population Exposure
Toluene	45202	PAMS	1	<input type="checkbox"/>	1	URB	PAMS	078	ppbC	128	CAS Auto-Gas Chromatograph	Max precursor emissions impact
Trans-2-butene	43216	PAMS	1	<input type="checkbox"/>	1	URB	PAMS	078	ppbC	128	CAS Auto-Gas Chromatograph	Max precursor emissions impact
Ultraviolet Radiation	63302	PAMS	1	<input type="checkbox"/>	1	NBR	MET	079	W/m^2	011	UV Radiometer (Photometer)	Max precursor emissions impact

UV Carbon PM2.5 LC	88314	SLAMS	1	<input type="checkbox"/>	1	NBR	RES	105	ug/m^3-LC	894	Magee Scientific TAPI M633 Aethalometer
Wind Direction - Resultant	61104	NCORE	1	<input type="checkbox"/>	1	N/A	MET	014	deg	065	Instrumental: RM Young Model 05305

Wind Speed - Resultant	61103	NCORE	1	<input type="checkbox"/>	1	N/A	MET	012	mph	065	Instrumental: RM Young Model 05305
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Blue Ridge I-70 (Site discontinued, to be relocated by 1/1/2024)

4018 Harvard Lane, Kansas City, MO 64133

<i>Latitude:</i>	39.047911	<i>AQCR:</i>	094	Metropolitan Kansas City
<i>Longitude:</i>	-94.450513	<i>MSA:</i>	3760	Kansas City, MO-KS
<i>Elevation (ft):</i>	960	<i>AQS</i>		
<i>Parameter</i>	<i>AQS Code</i>	<i>Monitor Type</i>	<i>AQS POC Coll</i>	<i>AQS Freq</i>
Barometric Pressure	64101	SPM	1	<input type="checkbox"/>
				1
				N/A
				MET
				059
				mm (Hg)
				014
				Instrumental- Barometric Sensor

Black Carbon PM2.5 LC	88313	SPM	1	<input type="checkbox"/>	1	MIC	COM	105	ug/m^3-LC	894	Magee Scientific TAPI M633 Aethalometer
Carbon Monoxide	42101	SLAMS	1	<input type="checkbox"/>	1	MIC	COM	007	ppm	554	Gas Filter Corr Thermo Electron 48i TLE
Indoor Temperature	62107	SPM	1	<input type="checkbox"/>	1	N/A	MET	017	deg C	013	Electronic Averaging Other

Nitric Oxide	42601	SPM	1	<input type="checkbox"/>	1	MIC	COM	008	ppb	074	Chemiluminescence Source Oriented
Nitrogen Dioxide	42602	SLAMS	1	<input type="checkbox"/>	1	MIC	COM	008	ppb	074	Chemiluminescence Source Oriented
Outdoor Temperature	62101	SPM	1	<input type="checkbox"/>	1	N/A	MET	017	deg C	040	Electronic Averaging
Outdoor Temperature	62101	SPM	2	<input type="checkbox"/>	1	N/A	MET	017	deg C	040	Electronic Averaging
Outdoor Temperature	62101	SPM	3	<input type="checkbox"/>	1	N/A	MET	017	deg C	040	Electronic Averaging
Outdoor Temperature Diff	62106	SPM	1	<input type="checkbox"/>	1	N/A	MET	116	Temp Diff deg C	041	Instrument: Elect or Mach Avg Lev 2-Lev1
Oxides of Nitrogen	42603	SPM	1	<input type="checkbox"/>	1	MIC	COM	008	ppb	074	Chemiluminescence Source Oriented
PM2.5 - LC FFM/FEM	88101	SLAMS	4	<input type="checkbox"/>	1	MIC	COM	105	ug/m^3-LC	182	FM/DS-Gravimetric 1405- DF
PM2.5 Tot Atmospheric	88500	SPM	1	<input type="checkbox"/>	1	MIC	AQI	105	ug/m^3-LC	790	FM/DS-Gravimetric 1405- Oriented DF
PM2.5 Volatile Channel	88503	SPM	1	<input type="checkbox"/>	1	MIC	AQI	105	ug/m^3-LC	790	FM/DS-Gravimetric 1405- Oriented DF

Precipitation	65102	SPM	1	<input type="checkbox"/>	1	N/A	MET	021	inches	014	Heated Tipping	Other
Relative Humidity	62201	SPM	1	<input type="checkbox"/>	1	N/A	MET	019	%humidity	020	Instrumental-Computed (Indirect)	Other
Solar Radiation	63301	SPM	1	<input type="checkbox"/>	1	N/A	MET	079	W/m^2	011	Instrumental-Pyranometer	Other
Std Dev Hz Wind Direction	61106	SPM	1	<input type="checkbox"/>	1	N/A	MET	014	deg	020	Arithmetic Standard Deviation	Other (10m Tower)
UV Carbon PM2.5 LC	88314	SPM	1	<input type="checkbox"/>	1	MIC	COM	105	ug/m^3-LC	894	Magee Scientific TAPI M633	Source Oriented Aethalometer
Wind Direction - Resultant	61104	SPM	1	<input type="checkbox"/>	1	N/A	MET	014	deg	065	Instrumental: RM Young Model 05305	Other (10m Tower)
Wind Speed - Resultant	61103	SPM	1	<input type="checkbox"/>	1	N/A	MET	012	mph	065	Instrumental: RM Young Model 05305	Other (10m Tower)

AQS Site Number 29-186-0005

Bonne Terre

15797 Highway D, Bonne Terre, MO 63628

Latitude:	37.90084	AQCR:	138	SE Missouri					
Longitude:	-90.42388	MSA:	0000	Not in an MSA					
Elevation (ft):	840	AQS Monitor Type	AQS POC Coll Freq	AQS State-Obj	AQS Unit-Code	AQS Unit-Code	AQS Method	AQS Method	AQS Monitor Objective
Parameter	AQS Code	AQS Monitor Type	AQS POC Coll Freq	AQS Scale Obj	AQS Unit-Code	AQS Unit-Code	AQS Method	AQS Method	AQS Monitor Objective

Indoor Temperature	62107	SPM	1	<input type="checkbox"/>	1	N/A	MET	017	deg C	013	Electronic Averaging	Other
Ozone	44201	SLAMS	1	<input type="checkbox"/>	1	REG	COM	007	ppm	047	Ultraviolet Photometric	Regional Transport
Ozone	44201	SLAMS	2	<input checked="" type="checkbox"/>	1	REG	COM	007	ppm	047	Ultraviolet Photometric	-
Solar Radiation	63301	SPM	1	<input type="checkbox"/>	1	N/A	MET	079	W/m^2	011	Instrumental-Pyranometer	Other

Branch Street

AQS Site Number 29-510-0093

100 Branch St., St. Louis, MO 63102

Latitude: 38.65643 **AQCR:** 070 Metropolitan St. Louis

Longitude: -90.18977 **MSA:** 7040 St. Louis, MO-IL

Elevation (ft): 429

Parameter	AQS Code	AQS Monitor Type	AQS POC	AQS Coll	AQS Freq	AQS Scale	State-Obj	AQS Unit-Code	AQS Unit	AQS Method Code	AQS Method	AQS Monitor Objective
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Barometric Pressure	64101	SPM	1	<input type="checkbox"/>	1	N/A	MET	059	mm (Hg)	014	Instrumental-Barometric Sensor	Other
Indoor Temperature	62107	SPM	1	<input type="checkbox"/>	1	N/A	MET	017	deg C	013	Electronic Averaging	Other
Outdoor Temperature	62101	SPM	1	<input type="checkbox"/>	1	N/A	MET	017	deg C	040	Electronic Averaging	Other (4m Probe Height)

PM10 - LC/FEM/NonFEM	85101	SPM	6	<input type="checkbox"/>	1	NBR	RES	105	ug/m^3-LC	239	Teledyne API T640x	Source Oriented
PM10 - STP FRM/FEM	81102	SLAMS	6	<input type="checkbox"/>	1	NBR	RES	105	ug/m^3-LC	239	Teledyne API T640x	Source Oriented
PM2.5 - LC FRM/FEM	88101	SLAMS	4	<input type="checkbox"/>	1	MID	COM	105	ug/m^3-LC	181	PM2.5 VSCC FEM or Thermo Scientific 1405-F	Source Oriented
PM2.5 - LC FRM/FEM	88101	SPM	6	<input type="checkbox"/>	1	NBR	RES	105	ug/m^3-LC	238	Teledyne API T640x	Source Oriented
PM2.5 Volatile Channel	88503	SPM	4	<input type="checkbox"/>	1	MID	AQI	105	ug/m^3-LC	181	PM2.5 VSCC FEM or Thermo Scientific 1405-F	Source Oriented
PMCoarse - LC FRM/FEM	86101	SPM	6	<input type="checkbox"/>	1	NBR	RES	105	ug/m^3-LC	240	Teledyne API T640x	Source Oriented
Relative Humidity	62201	SPM	1	<input type="checkbox"/>	1	N/A	MET	019	%humidity	020	Instrumental-Computed (Indirect)	Other
Std Dev Hz Wind Direction	61106	SPM	1	<input type="checkbox"/>	1	N/A	MET	014	deg	020	Arithmetic Standard Deviation	Other (10m Tower)
Wind Direction - Resultant	61104	SPM	1	<input type="checkbox"/>	1	N/A	MET	014	deg	065	Instrumental: RM Young Model 05305	Other (10m Tower)

Wind Speed - Resultant 61103 SPM 1 1 N/A MET 012 mph 065 Instrumental: RM Young Model 05305 Other (10m Tower)

Buick NE

AQS Site Number 29-093-0034

346 Power Lane, Bixby West, MO 65439

Latitude: 37.65212 **AQCR:** 138 SE Missouri

Longitude: -91.11653 **MSA:** 0000 Not in an MSA

Elevation (ft): 1423

Parameter	AQS Code	AQS Monitor Type	AQS POC	AQS Coll	AQS Freq	AQS Scale	AQS Obj	AQS Unit-Code	AQS Unit	AQS Method Code	AQS Method	AQS Monitor Objective
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Indoor Temperature 62107 SPM 1 1 N/A MET 017 deg C 013 Electronic Averaging Other

Lead (TSP) - LC FRM/FEM 14129 SLAMS 1 1/6 MID COM 105 ug/m^3-LC 813 Inductively Coupled Plasma Mass Spectroscopy Source Oriented & Highest Concentration

Lead (TSP) - LC FRM/FEM 14129 SLAMS 2 1/6 MID COM 105 ug/m^3-LC 813 Inductively Coupled Plasma Mass Spectroscopy Quality Assurance (Collocation)

Sulfur Dioxide 42401 SPM 1 1 MID COM 008 ppb 060 Pulsed Fluorescent Source Oriented

Sulfur Dioxide Max 5-min Avg 42406 SPM 1 1 MID COM 008 ppb 060 Pulsed Fluorescent Source Oriented

Wind Direction - Resultant 61104 SPM 1 1 N/A MET 014 deg 065 Instrumental: RM Young Model 05305 Other (10m meters)

Wind Speed - Resultant 61103 SPM 1 1 N/A MET 012 mph 065 Instrumental: RM Young Model 05305 Other (10 meters)

Carthage

AQS Site Number 29-097-0003

530 Juniper, Carthage, MO 64836

Latitude: 37.19822 **AQCR:** 139 SW Missouri

Longitude: -94.31702 **MSA:** 3710 Joplin, MO

Elevation (ft): 986

Parameter	AQS Code	AQS Monitor Type	AQS POC	AQS Coll	AQS Freq	AQS Scale	AQS Obj	AQS State	AQS Unit-Code	AQS Unit	AQS Method Code	AQS Method	AQS Monitor Objective
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Indoor Temperature 62107 SPM 1 1 N/A MET 017 deg C 013 Electronic Averaging Other

PM10 - STP FRM/FEM 81102 SLAMS 3 1 MID COM 001 ug/m^3 079 R&P SA246B TEOM Source Oriented

PM10 - STP FRM/FEM 81102 SLAMS 4 1 MID COM 001 ug/m^3 079 R&P SA246B TEOM Quality Assurance (Collocation)

Wind Direction - Resultant 61104 SPM 1 1 N/A MET 014 deg 065 Instrumental: RM Young Model 05305 Other (5.5 meters)

Wind Speed - Resultant 61103 SPM 1 1 N/A MET 012 mph 065 Instrumental: RM Young Model 05305 Other (5.5 meters)

Ozone	44201	SLAMS	2	<input checked="" type="checkbox"/>	1	REG	COM	007	ppm	047	Ultraviolet Photometric	-
PM2.5 - LC FRM/FEM	88101	SLAMS	4	<input type="checkbox"/>	1	REG	COM	105	ug/m^3-LC	181	PM2.5 VSCC FEM or Thermo Scientific 1405-F	Regional Transport
PM2.5 Volatile Channel	88503	SPM	4	<input type="checkbox"/>	1	REG	AQI	105	ug/m^3-LC	181	PM2.5 VSCC FEM or Thermo Scientific 1405-F	Regional Transport
Relative Humidity	62201	SPM	2	<input type="checkbox"/>	1	N/A	MET	019	%humidity	020	Instrumental-Computed (Indirect)	Other
Wind Direction - Resultant	61104	SPM	1	<input type="checkbox"/>	1	N/A	MET	014	deg	065	Instrumental: RM Young Model 05305	Other (5.5 meters)
Wind Speed - Resultant	61103	SPM	1	<input type="checkbox"/>	1	N/A	MET	012	mph	065	Instrumental: RM Young Model 05305	Other (5.5 meters)

Farrar

AQS Site Number **29-157-0001**

County Rd. 342, Farrar, MO 63746

Latitude: 37.70264 **AQCR:** 138 SE Missouri

Longitude: -89.698640 **MSA:** 0000 Not in an MSA

Parameter	<i>AQS</i>	<i>AQS</i>	<i>AQS</i>	<i>AQS</i>	<i>AQS</i>	<i>AQS</i>	<i>AQS</i>	<i>AQS</i>	<i>AQS</i>	<i>AQS</i>	<i>AQS</i>
	Code	Monitor	Type	POC	Coll	Freq	Scale	State-Obj	Unit-Code	Unit	Method

Indoor Temperature	62107	SPM	1	<input type="checkbox"/>	1	N/A	MET	017	deg C	013	Electronic Averaging	Other
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Ozone	44201	SLAMS	1	<input type="checkbox"/>	1	NBR	COM	007	ppm	047	Ultraviolet Photometric	Max Ozone Concentration & Extreme Downwind
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Ozone	44201	SLAMS	2	<input checked="" type="checkbox"/>	1	NBR	COM	007	ppm	047	Ultraviolet Photometric	-
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Fellows Lake

AQS Site Number **29-077-0042**

4208 E. Farm Rd. 66, Springfield, MO 65803

Latitude: 37.319254 **AQCR:** 139 SW Missouri

Longitude: -93.214758 **MSA:** 7920 Springfield, MO

Elevation (ft): 1346

Parameter	AQS Code	AQS Monitor Type	AQS POC Coll	AQS Freq	AQS Scale	State-Obj	AQS Unit-Code	AQS Unit	AQS Method Code	AQS Method	AQS Monitor Objective
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Indoor Temperature	62107	SPM	1	<input type="checkbox"/>	1	N/A	MET	017	deg C	013	Electronic Averaging	Other
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Ozone	44201	SLAMS	1	<input type="checkbox"/>	1	URB	COM	007	ppm	047	Ultraviolet Photometric	Max Ozone Concentration & Population Exposure
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Ozone	44201	SLAMS	2	<input checked="" type="checkbox"/>	1	URB	COM	007	ppm	047	Ultraviolet Photometric	-
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Finger Lakes

AQS Site Number **29-019-0011**

1505 E. Peabody Road, Columbia, MO 65202

Latitude: 39.07803 **AQCR:** 137 Northern Missouri

Longitude: -92.31632 **MSA:** 1740 Columbia, MO

Elevation (ft): 726

Parameter	AQS Code	AQS Monitor Type	AQS POC Coll	AQS Freq	AQS Scale	State-Obj	AQS Unit-Code	AQS Unit	AQS Method Code	AQS Method	AQS Monitor Objective
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Indoor Temperature	62107	SPM	1	<input type="checkbox"/>	1	N/A	MET	017	deg C	013	Electronic Averaging	Other
Ozone	44201	SLAMS	1	<input type="checkbox"/>	1	NBR	COM	007	ppm	047	Ultraviolet Photometric	Max Ozone Concentration & Population Exposure
Ozone	44201	SLAMS	2	<input checked="" type="checkbox"/>	1	NBR	COM	007	ppm	047	Ultraviolet Photometric	-

Foley West

AQS Site Number **29-113-0004**

2100 Highway Y Foley, MO 63347

Latitude: 39.04577 **AQCR:** 137 Northern Missouri

Longitude: -90.84927 **MSA:** 7040 St. Louis, MO-IL

Elevation (ft): 715

Parameter	AQS Code	AQS Monitor Type	AQS POC Coll	AQS Freq	AQS Scale	State-Obj	AQS Unit-Code	AQS Unit	AQS Method Code	AQS Method	AQS Monitor Objective
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Indoor Temperature	62107	SPM	1	<input type="checkbox"/>	1	N/A	MET	017	deg C	013	Electronic Averaging	Other
Ozone	44201	SLAMS	1	<input type="checkbox"/>	1	NBR	COM	007	ppm	047	Ultraviolet Photometric	Extreme Downwind
Ozone	44201	SLAMS	2	<input checked="" type="checkbox"/>	1	NBR	COM	007	ppm	047	Ultraviolet Photometric	-

Forest City, Exide Levee

AQS Site Number 29-087-0008

25942 Hwy 111, Forest City, MO 64451

Latitude: 40.027222 **AQCR:** 137 Northern Missouri

Longitude: -95.235833 **MSA:** 0000 Not in an MSA

Elevation (ft): 904

Parameter	AQS Code	AQS Monitor Type	AQS POC Coll	AQS Freq	AQS Scale Obj	AQS State Obj	AQS Unit	AQS Code	AQS Method	AQS Unit	AQS Code	AQS Method	AQS Objective
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Lead (TSP) - LC FRM/FEM 14129 SLAMS 1 1/6 MID COM 105 ug/m^3-LC 813 Inductively Coupled Plasma Mass Spectroscopy

Forest Park (PM2.5 method to change from 182 to 181) AQS Site Number 29-510-0094

5600 Clayton Avenue, St. Louis, MO 63110

Latitude: 38.63114 **AQCR:** 070 Metropolitan St. Louis

Longitude: -90.28115 **MSA:** 7040 St. Louis, MO-IL

Elevation (ft): 551

Parameter	AQS Code	AQS Monitor Type	AQS POC Coll	AQS Freq	AQS Scale Obj	AQS State Obj	AQS Unit	AQS Code	AQS Method	AQS Unit	AQS Code	AQS Method	AQS Objective
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Barometric Pressure 64101 SPM 1 1 N/A MET 059 mm (Hg) 014 Instrumental-Barometric Sensor Other

Black Carbon PM2.5 LC 88313 SPM 1 1 MIC COM 105 ug/m^3-LC 894 Magee Scientific TAPI M633 Aethalometer Oriented

Carbon Monoxide 42101 SLAMS 1 1 N/A MET 007 ppm 554 Gas Filter Corr Thermo Electron 48i TLE Source Oriented

Indoor Temperature 62107 SPM 1 1 N/A MET 017 deg C 013 Electronic Averaging Other

Nitric Oxide	42601	SPM	1	<input type="checkbox"/>	1	MIC	COM	008	ppb	074	Chemiluminescence	Source Oriented
Nitrogen Dioxide	42602	SLAMS	1	<input type="checkbox"/>	1	MIC	COM	008	ppb	074	Chemiluminescence	Source Oriented
Outdoor Temperature	62101	SPM	1	<input type="checkbox"/>	1	N/A	MET	017	deg C	040	Electronic Averaging	Other (4m Probe Height)
Outdoor Temperature	62101	SPM	2	<input type="checkbox"/>	1	N/A	MET	017	deg C	040	Electronic Averaging	Other (10m Probe Height)
Outdoor Temperature	62101	SPM	3	<input type="checkbox"/>	1	N/A	MET	017	deg C	040	Electronic Averaging	Other (2m Probe Height)
Outdoor Temperature Diff	62106	SPM	1	<input type="checkbox"/>	1	N/A	MET	116	Temp Diff deg C	041	Instrumental: Elect or Mach Avg Lev 2-Lev1	Other (10m - 2m Probe Height)
Oxides of Nitrogen	42603	SPM	1	<input type="checkbox"/>	1	MIC	COM	008	ppb	074	Chemiluminescence	Source Oriented
PM2.5 - LC FRM/FEM	88101	SLAMS	4	<input type="checkbox"/>	1	MIC	COM	105	ug/m^3-LC	182	FMDS-Gravimetric DF	Source Oriented
PM2.5 - LC FRM/FEM	88101	SPM	6	<input type="checkbox"/>	1	N/A	COM	105	ug/m^3-LC	236	Teledyne API T640	Source Oriented
PM2.5 Tot Atmospheric	88500	SPM	1	<input type="checkbox"/>	1	MIC	AQI	105	ug/m^3-LC	790	FDMS-Gravimetric DF	Source Oriented

PM2.5 Volatile Channel	88503	SPM	1	<input type="checkbox"/>	1	MIC	AQI	105	ug/m^3-LC	790	FDM-S- Gravimetric	1405- Oriented DF	Source
Precipitation	65102	SPM	1	<input type="checkbox"/>	1	N/A	MET	021	inches	014	Heated Tipping Bucket	Other	
Relative Humidity	62201	SPM	1	<input type="checkbox"/>	1	N/A	MET	019	%humidity	020	Instrumental- Computed (Indirect)	Other	
Solar Radiation	63301	SLAMS	1	<input type="checkbox"/>	1	N/A	MET	079	W/m^2	011	Instrumental- Pyranometer	Other	
Std Dev Hz Wind Direction	61106	SPM	1	<input type="checkbox"/>	1	N/A	MET	014	deg	020	Arithmetic Standard Deviation	Other (10m Tower)	
UV Carbon PM2.5 LC	88314	SPM	1	<input type="checkbox"/>	1	MIC	COM	105	ug/m^3-LC	894	Magee Scientific TAPI M633 Aethalometer	Source 05305	Oriented Tower)
Wind Direction - Resultant	61104	SPM	1	<input type="checkbox"/>	1	N/A	MET	014	deg	065	Instrumental: RM Young Model 05305	Other (10m Tower)	
Wind Speed - Resultant	61103	SPM	1	<input type="checkbox"/>	1	N/A	MET	012	mph	065	Instrumental: RM Young Model 05305	Other (10m Tower)	

Front Street

AQS Site Number 29-095-0018

1331 N. Jackson, Kansas City, MO 64120

Latitude:	39.13198	AQCR:	094	Metropolitan Kansas City
Longitude:	-94.52137	MSA:	3760	Kansas City, MO-KS
Elevation (ft):	728	AQS		
Parameter	AQS Code	Monitor Type	AQS POC Coll	AQS Freq
		State-Obj	State-Obj	State-Obj

Parameter	AQS Code	Monitor Type	AQS POC Coll	AQS Freq	AQS Unit	AQS Code	AQS Unit	AQS Code	AQS Method	AQS Code	AQS Method	AQS Objective
Indoor Temperature	62107	SPM	1	<input type="checkbox"/>	1	N/A	MET	017	deg C	013	Electronic Averaging	Other
PM10 - STP FRM/FEM	81102	SLAMS	3	<input type="checkbox"/>	1	NBR	COM	001	ug/m^3	079	R&P SA246B TEOM	Highest Concentration & Population Exposure

Herculaneum, Mott Street

747 Mott St., Herculaneum, MO, 63048

Latitude:	38.263394	AQCR:	070	Metropolitan St. Louis
Longitude:	-90.379667	MSA:	7040	St. Louis, MO-IL
Elevation (ft):	468	AQS		
Parameter	AQS Code	Monitor Type	AQS POC Coll	AQS Freq
		State-Obj	State-Obj	State-Obj

Parameter	AQS Code	Monitor Type	AQS POC Coll	AQS Freq	AQS Unit	AQS Code	AQS Unit	AQS Code	AQS Method	AQS Code	AQS Method	AQS Objective
Indoor Temperature	62107	SPM	1	<input type="checkbox"/>	1	N/A	MET	017	deg C	013	Electronic Averaging	Other
Lead (TSP) - LC FRM/FEM	14129	SLAMS	1	<input type="checkbox"/>	1/1	MID	COM	105	ug/m^3-LC	813	Inductively Coupled Plasma Mass Spectroscopy	Source Oriented & Highest Concentration
Lead (TSP) - LC FRM/FEM	14129	SLAMS	2	<input checked="" type="checkbox"/>	1/3	MID	COM	105	ug/m^3-LC	813	Inductively Coupled Plasma Mass Spectroscopy	Quality Assurance (Collocation)

Sulfur Dioxide	42401	SLAMS	1	<input type="checkbox"/>	1	MID	COM	008	ppb	060	Pulsed Fluorescent	Source Oriented & Highest Concentration
Sulfur Dioxide Max 5-min Avg	42406	SPM	1	<input type="checkbox"/>	1	MID	COM	008	ppb	060	Pulsed Fluorescent	Source Oriented & Highest Concentration
Wind Direction - Resultant	61104	SPM	1	<input type="checkbox"/>	1	N/A	MET	014	deg	065	Instrumental: RM Young Model 05305	Other (5.5 meters)
Wind Speed - Resultant	61103	SPM	1	<input type="checkbox"/>	1	N/A	MET	012	mph	065	Instrumental: RM Young Model 05305	Other (5.5 meters)

Herculaneum, Sherman

AQS Site Number **29-099-0013**

460 Sherman St., Herculaneum, MO, 63048

Latitude: 38.27170 **AQCR:** 070 Metropolitan St. Louis

Longitude: -90.37658 **MSA:** 7040 St. Louis, MO-IL

Elevation (ft): 462

Parameter	AQS Code	AQS Monitor Type	AQS POC	AQS Coll	AQS Freq	AQS Scale	State- Obj	AQS Unit- Code	AQS Unit	AQS Method Code	AQS Method	AQS Monitor Objective

Lead (TSP) - LC FRM/FEM 14129	SLAMS	1	<input type="checkbox"/>	1/6	NBR	COM	105	ug/m^3-LC	813	Inductively Coupled Plasma Mass Spectroscopy	Source Oriented
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Hillcrest High School

AQS Site Number **29-077-0036**

3319 N. Grant, Springfield, MO 65803

Latitude: 37.25607 **AQCR:** 139 SW Missouri

Longitude: -93.29970 **MSA:** 7920 Springfield, MO

Elevation (ft): 1321

Parameter	AQS Code	AQS Monitor Type	AQS POC	AQS Coll	AQS Freq	AQS Scale	State- Obj	AQS Unit- Code	AQS Unit	AQS Method Code	AQS Method	AQS Monitor Objective

Barometric Pressure	64101	SPM	1	<input type="checkbox"/>	1	N/A	MET	059	mm (Hg)	014	Instrumental-Barometric Sensor	Other
Indoor Temperature	62107	SPM	1	<input type="checkbox"/>	1	N/A	MET	017	deg C	013	Electronic Averaging	Other
Outdoor Temperature	62101	SPM	1	<input type="checkbox"/>	1	N/A	MET	017	deg C	040	Electronic Averaging	Other (4m Probe Height)
Ozone	44201	SLAMS	1	<input type="checkbox"/>	1	URB	COM	007	ppm	047	Ultraviolet Photometric	Population Exposure
Ozone	44201	SLAMS	2	<input checked="" type="checkbox"/>	1	URB	COM	007	ppm	047	Ultraviolet Photometric	-
PM10 - LC/FEM/NonFEM	85101	SLAMS	6	<input type="checkbox"/>	1	NBR	RES	105	ug/m^3-LC	239	Teledyne API T640x	Population Exposure
PM10 - STP FRM/FEM	81102	SLAMS	6	<input type="checkbox"/>	1	NBR	RES	105	ug/m^3-LC	239	Teledyne API T640x	Population Exposure
PM2.5 - LC FRM/FEM	88101	SLAMS	4	<input type="checkbox"/>	1	NBR	COM	105	ug/m^3-LC	181	PM2.5 VSCC FEM or Thermo Scientific 1405-F	Population Exposure
PM2.5 - LC FRM/FEM	88101	SPM	6	<input type="checkbox"/>	1	NBR	RES	105	ug/m^3-LC	238	Teledyne API T640x	Population Exposure
PM2.5 Volatile Channel	88503	SPM	1	<input type="checkbox"/>	1	NBR	AQI	105	ug/m^3-LC	181	PM2.5 VSCC FEM or Thermo Scientific 1405-F	Population Exposure

Relative Humidity	62201	SPM	1	<input type="checkbox"/>	1	N/A	MET	019	%humidity	020	Instrumental-Computed (Indirect)	Other
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Ladue (To Discontinue FRM)

AQS Site Number **29-189-3001**

73 Hunter Ave., Ladue, MO 63124

Latitude: 38.65028 **AQCR:** 070 Metropolitan St. Louis

Longitude: -90.35021 **MSA:** 7040 St. Louis, MO-IL

Elevation (ft): 511

Parameter	AQS Code	AQS Monitor Type	AQS POC	AQS Coll	AQS Freq	AQS Scale	State-Obj	AQS Unit-Code	AQS Unit	AQS Method Code	AQS Method	AQS Monitor Objective
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Barometric Pressure	64101	SPM	1	<input type="checkbox"/>	1	N/A	MET	059	mm (Hg)	014	Instrumental-Barometric Sensor	Other
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Indoor Temperature	62107	SPM	1	<input type="checkbox"/>	1	N/A	MET	017	deg C	013	Electronic Averaging	Other
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Outdoor Temperature	62101	SPM	1	<input type="checkbox"/>	1	N/A	MET	017	deg C	040	Electronic Averaging	Other (4m Probe Height)
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PM2.5 - LC FRM/FEM	88101	SLAMS	2	<input checked="" type="checkbox"/>	1/6	NBR	COM	105	ug/m^3-LC	145	R&P 2025 Sequential w/VSCC	Quality Assurance (Collocation)
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PM2.5 - LC FRM/FEM	88101	SLAMS	4	<input type="checkbox"/>	1	NBR	COM	105	ug/m^3-LC	181	PM2.5 VSCC FEM or Thermo Scientific 1405-F	Population Exposure
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PM2.5 Volatile Channel	88503	SLAMS	4	<input type="checkbox"/>	1	NBR	COM	105	ug/m^3-LC	181	PM2.5 VSCC FEM or Thermo Scientific 1405-F	Population Exposure
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Relative Humidity	62201	SPM	1	<input type="checkbox"/>	1	N/A	MET	019	%humidity	020	Instrumental-Computed (Indirect)	Other
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Liberty

Highway 33 & County Home Rd., Liberty, MO 64068

Latitude: 39.30314 **AQCR:** 094 Metropolitan Kansas City

Longitude: -94.37678 **MSA:** 3760 Kansas City, MO-KS

Elevation (ft): 941

Parameter	AQS Code	AQS Monitor Type	AQS POC Coll	AQS Freq	AQS Scale Obj	State-Unit	AQS Unit Code	AQS Method	AQS Code	AQS Method	AQS Objective
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Barometric Pressure	64101	SPM	1	<input type="checkbox"/>	1	N/A	MET	059	mm (Hg)	014	Instrumental-Barometric Sensor	Other
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Indoor Temperature	62107	SPM	1	<input type="checkbox"/>	1	N/A	MET	017	deg C	013	Electronic Averaging	Other
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Outdoor Temperature	62101	SPM	1	<input type="checkbox"/>	1	N/A	MET	017	deg C	040	Electronic Averaging	Other (4m Probe Height)
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Ozone	44201	SLAMS	1	<input type="checkbox"/>	1	NBR	COM	007	ppm	047	Ultraviolet Photometric	Population Exposure
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Ozone	44201	SLAMS	2	<input checked="" type="checkbox"/>	1	NBR	COM	007	ppm	047	Ultraviolet Photometric	-
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PM2.5 - LC FRM/FEM	88101	SLAMS	4	<input type="checkbox"/>	1	NBR	COM	105	ug/m^3-LC	181	PM2.5 VSCC FEM or Thermo Scientific 1405-F	Population Exposure
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AQS Site Number 29-047-0005

PM2.5 Volatile Channel	88503	SPM	1	<input type="checkbox"/>	1	NBR	AQI	105	ug/m^3-LC	181	PM2.5 VSSC FEM or Thermo Scientific 1405-F	Population Exposure
Relative Humidity	62201	SPM	1	<input type="checkbox"/>	1	N/A	MET	019	%humidity	020	Instrumental- Computed (Indirect)	Other
Solar Radiation	63301	SPM	1	<input type="checkbox"/>	1	N/A	MET	079	W/m^2	011	Instrumental- Pyranometer	Other

Mark Twain State Park

20057 State Park Office Rd., Stoutsburg, MO 65283

AQS Site Number 29-137-0001

Parameter	AQS Code	AQS Monitor Type	AQS POC Coll	AQS Freq	AQS Scale Obj	State-Unit Obj	AQS Unit Code	AQS Method Code	AQS Method	AQS Monitor Objective	AQS Objective	
Indoor Temperature	62107	SPM	1	<input type="checkbox"/>	1	N/A	MET	017	deg C	013	Electronic Averaging	Other
Nitric Oxide	42601	SPM	1	<input type="checkbox"/>	1	REG	COM	008	ppb	074	Chemiluminescence General/Background	Chemiluminescence General/Background
Nitrogen Dioxide	42602	SPM	1	<input type="checkbox"/>	1	REG	COM	008	ppb	074	Chemiluminescence General/Background	Chemiluminescence General/Background
Oxides of Nitrogen	42603	SPM	1	<input type="checkbox"/>	1	REG	COM	008	ppb	074	Chemiluminescence General/Background	Chemiluminescence General/Background

Ozone	44201	SLAMS	1	<input type="checkbox"/>	1	REG	COM	007	ppm	047	Ultraviolet Photometric	General/Background
Ozone	44201	SLAMS	2	<input checked="" type="checkbox"/>	1	REG	COM	007	ppm	047	Ultraviolet Photometric	-
PM10 - STP FRM/FEM	81102	SPM	3	<input type="checkbox"/>	1	REG	SIP	001	ug/m^3	079	R&P SA246B TEOM	General/Background
Sulfur Dioxide	42401	SPM	1	<input type="checkbox"/>	1	REG	SIP	008	ppb	060	Pulsed Fluorescent	General/Background
Sulfur Dioxide Max 5-min Avg	42406	SPM	1	<input type="checkbox"/>	1	NBR	COM	008	ppb	060	Pulsed Fluorescent	General/Background
Wind Direction - Resultant	61104	SPM	1	<input type="checkbox"/>	1	N/A	MET	014	deg	065	Instrumental: RM Young Model 05305	Other (10m Tower)
Wind Speed - Resultant	61103	SPM	1	<input type="checkbox"/>	1	N/A	MET	012	mph	065	Instrumental: RM Young Model 05305	Other (10m Tower)

Maryland Heights

AQS Site Number **29-189-0014**

13044 Marine Ave., Maryland Heights, MO 63146

Latitude: 38.71085 **AQCR:** 070 Metropolitan St. Louis

Longitude: -90.47606 **MSA:** 7040 St. Louis, MO-IL

Elevation (ft): 607

Parameter	AQS Code	AQS Monitor Type	AQS POC Coll	AQS Freq	AQS Scale	State-Obj	AQS Unit-Code	AQS Unit	AQS Method Code	AQS Method	AQS Monitor Objective
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Indoor Temperature	62107	SPM	1	<input type="checkbox"/>	1	N/A	MET	017	deg C	013	Electronic Averaging	Other
Ozone	44201	SLAMS	1	<input type="checkbox"/>	1	NBR	COM	007	ppm	047	Ultraviolet Photometric	Population Exposure
Ozone	44201	SLAMS	2	<input checked="" type="checkbox"/>	1	NBR	COM	007	ppm	047	Ultraviolet Photometric	-

New Bloomfield

AQS Site Number **29-027-0002**

2625 Meadow Lake View, New Bloomfield, MO, 65063

Latitude: 38.70608 **AQCR:** 137 Northern Missouri

Longitude: -92.09308 **MSA:** 0000 Not in an MSA

Elevation (ft): 860

Parameter	AQS Code	AQS Monitor Type	AQS POC Coll	AQS Freq	AQS Scale	State-Obj	AQS Unit-Code	AQS Unit	AQS Method Code	AQS Method	AQS Monitor Objective
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Indoor Temperature	62107	SPM	1	<input type="checkbox"/>	1	N/A	MET	017	deg C	013	Electronic Averaging	Other
Ozone	44201	SLAMS	1	<input type="checkbox"/>	1	NBR	COM	007	ppm	047	Ultraviolet Photometric	Max Ozone Concentration & Population Exposure
Ozone	44201	SLAMS	2	<input checked="" type="checkbox"/>	1	NBR	COM	007	ppm	047	Ultraviolet Photometric	-

Oates

AQS Site Number 29-179-0034

13155 Highway KK, Boss, MO 65440

Latitude:	37.56485	AQCR:	138	SE Missouri
Longitude:	-91.11423	MSA:	0000	Not in an MSA
Elevation (ft):	1134	AQS		
Parameter	AQS Code	Monitor Type	AQS POC Coll	AQS Freq
				State-Obj

AQS	Monitor	AQS	AQS	AQS	AQS	AQS	AQS	AQS	AQS	AQS	AQS
Code	Type	POC	Coll	Freq	Scale	Obj	Unit	Code	Unit	Code	Unit

Lead (TSP) - LC FRM/FEM	14129	SLAMS	1	<input type="checkbox"/>	1/6	NBR	COM	105	ug/m ³	LC	813

Inductively Coupled Plasma Mass Spectroscopy

Orchard Farm

AQS Site Number 29-183-1004

2165 Highway V, St. Charles, MO 63301

Latitude:	38.8994	AQCR:	070	Metropolitan St. Louis
Longitude:	-90.44917	MSA:	7040	St. Louis, MO-IL
Elevation (ft):	441	AQS		
Parameter	AQS Code	Monitor Type	AQS POC Coll	AQS Freq
				State-Obj

Indoor Temperature	62107	SPM	1	<input type="checkbox"/>	1	N/A	MET	017	deg C	013	Electronic Averaging

Ozone	44201	SLAMS	1	<input type="checkbox"/>	1	URB	COM	007	ppm	047	Ultraviolet Photometric

Extreme Downwind

Pacific

AQS Site Number 29-189-0005

18701 Old Highway 66, Pacific, MO 63069

Latitude: 38.49011 **AQCR:** 070 Metropolitan St. Louis

Longitude: -90.70509 **MSA:** 7040 St. Louis, MO-IL

Elevation (ft): 524

Parameter	AQS Code	AQS Monitor Type	AQS POC	AQS Coll	AQS Freq	AQS Scale	State-Obj	AQS Unit-Code	AQS Unit	AQS Method Code	AQS Method	AQS Monitor Objective
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Indoor Temperature	62107	SPM	1	<input type="checkbox"/>	1	N/A	MET	017	deg C	013	Electronic Averaging	Other
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Ozone	44201	SLAMS	1	<input type="checkbox"/>	1	NBR	COM	007	ppm	047	Ultraviolet Photometric	Population Exposure
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Ozone	44201	SLAMS	2	<input checked="" type="checkbox"/>	1	NBR	COM	007	ppm	047	Ultraviolet Photometric	-
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Richards Gebaur-South

AQS Site Number 29-037-0003

1802 E. 203rd Street, Belton, MO, 64012

Latitude: 38.75961 **AQCR:** 094 Metropolitan Kansas City

Longitude: -94.57983 **MSA:** 3760 Kansas City, MO-KS

Elevation (ft): 1082

Parameter	AQS Code	AQS Monitor Type	AQS POC	AQS Coll	AQS Freq	AQS Scale	State-Obj	AQS Unit-Code	AQS Unit	AQS Method Code	AQS Method	AQS Monitor Objective
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Barometric Pressure	64101	SPM	1	<input type="checkbox"/>	1	N/A	MET	059	mm (Hg)	014	Instrumental-Barometric Sensor	Other
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Indoor Temperature	62107	SPM	1	<input type="checkbox"/>	1	N/A	MET	017	deg C	013	Electronic Averaging	Other
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Outdoor Temperature	62101	SPM	1	<input type="checkbox"/>	1	N/A	MET	017	deg C	040	Electronic Averaging	Other (4m Probe Height)
Ozone	44201	SLAMS	1	<input type="checkbox"/>	1	NBR	COM	007	ppm	047	Ultraviolet Photometric	Population Exposure
Ozone	44201	SLAMS	2	<input checked="" type="checkbox"/>	1	NBR	COM	007	ppm	047	Ultraviolet Photometric	-
PM2.5 - LC FRM/FEM	88101	SLAMS	4	<input type="checkbox"/>	1	NBR	COM	105	ug/m^3-LC	181	PM2.5 VSCC FEM or Thermo Scientific 1405-F	Population Exposure
PM2.5 Volatile Channel	88503	SPM	1	<input type="checkbox"/>	1	NBR	AQI	105	ug/m^3-LC	181	PM2.5 VSCC FEM or Thermo Scientific 1405-F	Population Exposure
Relative Humidity	62201	SPM	1	<input type="checkbox"/>	1	N/A	MET	019	%humidity	020	Instrumental-Computed (Indirect)	Other
Wind Direction - Resultant	61104	SPM	1	<input type="checkbox"/>	1	N/A	MET	014	deg	065	Instrumental: RM Young Model 05305	Other (10m Tower)
Wind Speed - Resultant	61103	SPM	1	<input type="checkbox"/>	1	N/A	MET	012	mph	065	Instrumental: RM Young Model 05305	Other (10m Tower)

Rider Trail, L70

AQS Site Number 29-189-0016

13080 Hollenberg Drive, Bridgeton, MO 63044

Latitude: 38.75264 **AQCR:** 070 Metropolitan St. Louis

Longitude: -90.44884 **MSA:** 7040 St. Louis, MO-IL

Elevation (ft): 515

Parameter	AQS Code	AQS Monitor Type	AQS POC Coll	AQS Freq	AQS Scale Obj	AQS Unit	AQS Code	AQS Method	AQS Unit Code	AQS Method	AQS Monitor Objective
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Barometric Pressure 64101 SPM 1 1 N/A MET 059 mm (Hg) 014 Instrumental-Barometric Sensor Other

Indoor Temperature 62107 SPM 1 1 N/A MET 017 deg C 013 Electronic Averaging Other

Nitric Oxide 42601 SPM 1 1 MIC COM 008 ppb 074 Chemiluminescence Oriented

Nitrogen Dioxide 42602 SLAMS 1 1 MIC COM 008 ppb 074 Chemiluminescence Oriented

Outdoor Temperature 62101 SPM 2 1 N/A MET 017 deg C 040 Electronic Averaging Other (10m Probe Height)

Outdoor Temperature 62101 SPM 3 1 N/A MET 017 deg C 040 Electronic Averaging Other (2m Probe Height)

Outdoor Temperature Diff 62106 SPM 1 1 N/A MET 116 Temp Diff deg C 041 Instrumental: Elect or Mach Avg Lev 2-Lev 1 Other (10m - 2m Probe Height)

Oxides of Nitrogen	42603	SPM	1	<input type="checkbox"/>	1	MIC	COM	008	ppb	074	Chemiluminescence	Oriented
Precipitation	65102	SPM	1	<input type="checkbox"/>	1	N/A	MET	021	inches	014	Heated Tipping Bucket	Other
Relative Humidity	62201	SPM	1	<input type="checkbox"/>	1	N/A	MET	019	%humidity	020	Instrumental-Computed (Indirect)	Other
Solar Radiation	63301	SPM	1	<input type="checkbox"/>	1	N/A	MET	079	W/m^2	011	Instrumental-Pyranometer	Other
Std Dev Hz Wind Direction	61106	SPM	1	<input type="checkbox"/>	1	N/A	MET	014	deg	020	Arithmetic Standard Deviation	Other (10m Tower)
Sulfur Dioxide	42401	SPM	1	<input type="checkbox"/>	1	MID	SPP	008	ppb	100	Ultra-violet Fluorescence	Population Exposure
Sulfur Dioxide Max 5-min Avg	42406	SPM	1	<input type="checkbox"/>	1	MID	SPP	008	ppb	100	Ultra-violet Fluorescence	Population Exposure
Wind Direction - Resultant	61104	SPM	1	<input type="checkbox"/>	1	N/A	MET	014	deg	065	Instrumental: RM Young Model 05305	Other (10m Tower)
Wind Speed - Resultant	61103	SPM	1	<input type="checkbox"/>	1	N/A	MET	012	mph	065	Instrumental: RM Young Model 05305	Other (10m Tower)

Rocky Creek

AQS Site Number **29-047-0006**

2-114 NW 132 St., Kansas City, MO 64165

Latitude: 39.33181 **AQCR:** 094 Metropolitan Kansas City

Longitude: -94.58069 **MSA:** 3760 Kansas City, MO-KS

Elevation (ft): 990

Parameter	AQS Code	AQS Monitor Type	AQS POC	AQS Coll	AQS Freq	AQS Scale	State-Obj	AQS Unit-Code	AQS Unit	AQS Method Code	AQS Method	AQS Monitor Objective
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Indoor Temperature	62107	SPM	1	<input type="checkbox"/>	1	N/A	MET	017	deg C	013	Electronic Averaging	Other
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Ozone	44201	SLAMS	1	<input type="checkbox"/>	1	NBR	COM	007	ppm	047	Ultraviolet Photometric	Population Exposure
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Ozone	44201	SLAMS	2	<input checked="" type="checkbox"/>	1	NBR	COM	007	ppm	047	Ultraviolet Photometric	-
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Savannah

AQS Site Number **29-003-0001**

11796 Highway 71, Savannah, MO 64485

Latitude: 39.9544 **AQCR:** 137 Northern Missouri

Longitude: -94.849 **MSA:** 7000 St. Joseph, MO

Elevation (ft): 1120

Parameter	AQS Code	AQS Monitor Type	AQS POC	AQS Coll	AQS Freq	AQS Scale	State-Obj	AQS Unit-Code	AQS Unit	AQS Method Code	AQS Method	AQS Monitor Objective
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Indoor Temperature	62107	SPM	1	<input type="checkbox"/>	1	N/A	MET	017	deg C	013	Electronic Averaging	Other
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Ozone	44201	SLAMS	1	<input type="checkbox"/>	1	NBR	COM	007	ppm	047	Ultraviolet Photometric	Population Exposure
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Ozone 44201 SLAMS 2 1 NBR COM 007 ppm 047 Ultraviolet Photometric

South Broadway

8227 South Broadway, St. Louis, MO 63111

Latitude: 38.5425 **AQCR:** 070 Metropolitan St. Louis

Longitude: -90.263611 **MSA:** 7040 St. Louis, MO-IL

Elevation (ft): 452

Parameter	AQS Code	AQS Monitor Type	AQS POC Coll	AQS Freq	AQS Scale Obj	State-Unit	AQS Code	AQS Unit	AQS Method	AQS Code	AQS Method	AQS Objective
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Barometric Pressure	64101	SLAMS	1	<input type="checkbox"/>	1	N/A	MET	059	mm (Hg)	014	Instrumental-Barometric Sensor	Other
Indoor Temperature	62107	SPM	1	<input type="checkbox"/>	1	N/A	MET	017	deg C	013	Electronic Averaging	Other
Outdoor Temperature	62101	SPM	1	<input type="checkbox"/>	1	N/A	MET	017	deg C	040	Electronic Averaging	Other (4m Probe Height)
PM2.5 - LC FRM/FEM	88101	SLAMS	4	<input type="checkbox"/>	1	NBR	COM	105	ug/m^3-LC	181	PM2.5 VS SCC FEM or Thermo Scientific 1405-F	Population Exposure
PM2.5 Volatile Channel	88503	SPM	4	<input type="checkbox"/>	1	NBR	AQI	105	ug/m^3-LC	181	PM2.5 VS SCC FEM or Thermo Scientific 1405-F	Population Exposure
Relative Humidity	62201	SPM	1	<input type="checkbox"/>	1	N/A	MET	019	%humidity	020	Instrumental-Computed (Indirect)	Other

AQS Site Number 29-510-0007

St. Joseph Pump Station

AQS Site Number **29-021-0005**

S. Highway 759, St. Joseph, MO 64501

Latitude: 39.741667 **AQCR:** 094 Metropolitan Kansas City

Longitude: -94.858333 **MSA:** 7000 St. Joseph, MO

Elevation (ft): 845

Parameter	AQS Code	AQS Monitor Type	AQS POC	AQS Coll	AQS Freq	AQS Scale	State-Obj	AQS Unit-Code	AQS Unit	AQS Method Code	AQS Method	AQS Monitor Objective
Barometric Pressure	64101	SPM	1	<input type="checkbox"/>	1	N/A	MET	059	mm (Hg)	014	Instrumental-Barometric Sensor	Other
Barometric Pressure	64101	SPM	2	<input checked="" type="checkbox"/>	1	N/A	MET	059	mm (Hg)	014	Instrumental-Barometric Sensor	Other
Indoor Temperature	62107	SPM	1	<input type="checkbox"/>	1	N/A	MET	017	deg C	013	Electronic Averaging	Other
Outdoor Temperature	62101	SPM	1	<input type="checkbox"/>	1	N/A	MET	017	deg C	040	Electronic Averaging	Other (4m Probe Height)
Outdoor Temperature	62101	SPM	2	<input checked="" type="checkbox"/>	1	N/A	MET	017	deg C	040	Electronic Averaging	Other (4m Probe Height)
PM10 - STP FRM/FEM	81102	SLAMS	3	<input type="checkbox"/>	1	NBR	COM	001	ug/m^3	079	R&P SA246B TEOM	Population Exposure
PM2.5 - LC FRM/FEM	88101	SLAMS	4	<input type="checkbox"/>	1	NBR	COM	105	ug/m^3-LC	181	PM2.5 VSCC FEM or Thermo Scientific 1405-F	Population Exposure

PM2.5 - LC FRM/FEM	88101	SLAMS	5	<input checked="" type="checkbox"/>	1	NBR	COM	105	ug/m^3-LC	181	PM2.5 VSCC FEM or Thermo Scientific 1405-F	Quality Assurance (Collocation)
PM2.5 Volatile Channel	88503	SPM	1	<input type="checkbox"/>	1	NBR	AQI	105	ug/m^3-LC	181	PM2.5 VSCC FEM or Thermo Scientific 1405-F	Population Exposure
PM2.5 Volatile Channel	88503	SPM	2	<input checked="" type="checkbox"/>	1	NBR	AQI	105	ug/m^3-LC	181	PM2.5 VSCC FEM or Thermo Scientific 1405-F	Quality Assurance (Collocation)
Relative Humidity	62201	SPM	1	<input type="checkbox"/>	1	N/A	MET	019	%humidity	020	Instrumental-Computed (Indirect)	Other
Relative Humidity	62201	SPM	2	<input checked="" type="checkbox"/>	1	N/A	MET	019	%humidity	020	Instrumental-Computed (Indirect)	Other
Wind Direction - Resultant	61104	SPM	1	<input type="checkbox"/>	1	N/A	MET	014	deg	065	Instrumental: RM Young Model 05305	Other (5.5 meters)
Wind Speed - Resultant	61103	SPM	1	<input type="checkbox"/>	1	N/A	MET	012	mph	065	Instrumental: RM Young Model 05305	Other (5.5 meters)

Trimble

AQS Site Number **29-049-0001**

7536 SW. O Highway, Trimble, MO 64492

Latitude: 39.53063 **AQCR:** 137 Northern Missouri

Longitude: -94.55594 **MSA:** 3760 Kansas City, MO-KS

Elevation (ft): 1033

Parameter	AQS Code	AQS Monitor Type	AQS POC Coll	AQS Freq	AQS Scale	State-Obj	AQS Unit-Code	AQS Unit	AQS Method Code	AQS Method	AQS Monitor Objective
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Indoor Temperature	62107	SPM	1	<input type="checkbox"/>	1	N/A	MET	017	deg C	013	Electronic Averaging	Other
Ozone	44201	SLAMS	1	<input type="checkbox"/>	1	NBR	COM	007	ppm	047	Ultraviolet Photometric	Max Ozone Concentration
Ozone	44201	SLAMS	2	<input checked="" type="checkbox"/>	1	NBR	COM	007	ppm	047	Ultraviolet Photometric	-

Troost

AQS Site Number **29-095-0034**

724 Troost (Rear), Kansas City, MO 64106

Latitude: 39.10463 **AQCR:** 094 Metropolitan Kansas City

Longitude: -94.57040 **MSA:** 3760 Kansas City, MO-KS

Elevation (ft): 941

Parameter	AQS Code	AQS Monitor Type	AQS POC Coll	AQS Freq	AQS Scale	State-Obj	AQS Unit-Code	AQS Unit	AQS Method Code	AQS Method	AQS Monitor Objective
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Barometric Pressure	64101	SPM	1	<input type="checkbox"/>	1	N/A	MET	059	mm (Hg)	014	Instrumental-Barometric Sensor	Other
Indoor Temperature	62107	SPM	1	<input type="checkbox"/>	1	N/A	MET	017	deg C	013	Electronic Averaging	Other
Nitric Oxide	42601	SPM	1	<input type="checkbox"/>	1	URB	COM	008	ppb	074	Chemiluminescence	Population Exposure
Nitrogen Dioxide	42602	SLAMS	1	<input type="checkbox"/>	1	URB	COM	008	ppb	074	Chemiluminescence	Population Exposure

Outdoor Temperature	62101	SPM	1	<input type="checkbox"/>	1	N/A	MET	017	deg C	040	Electronic Averaging	Other (4m Probe Height)
Oxides of Nitrogen	42603	SPM	1	<input type="checkbox"/>	1	URB	COM	008	ppb	074	Chemiluminescence	Population Exposure
PM10 - LC/FEM/NonFEM	85101	SPM	6	<input type="checkbox"/>	1	NBR	RES	105	ug/m^3-LC	239	Teledyne API T640x	Population Exposure
PM10 - STP FRM/FEM	81102	SPM	6	<input type="checkbox"/>	1	NBR	RES	001	ug/m^3	239	Teledyne API T640x	Population Exposure
PM2.5 - LC FRM/FEM	88101	SLAMS	4	<input type="checkbox"/>	1	NBR	COM	105	ug/m^3-LC	181	PM2.5 VSCC FEM or Thermo Scientific 1405-F	Population Exposure
PM2.5 - LC FRM/FEM	88101	SPM	6	<input type="checkbox"/>	1	NBR	RES	105	ug/m^3-LC	238	Teledyne API T640x	Population Exposure
PM2.5 Volatile Channel	88503	SPM	4	<input type="checkbox"/>	1	NBR	AQI	105	ug/m^3-LC	181	PM2.5 VSCC FEM or Thermo Scientific 1405-F	Population Exposure
Relative Humidity	62201	SPM	1	<input type="checkbox"/>	1	N/A	MET	019	%humidity	020	Instrumental-Computed (Indirect)	Other
Sulfur Dioxide	42401	SLAMS	1	<input type="checkbox"/>	1	MID	COM	008	ppb	060	Pulsed Fluorescent	Source Oriented

Sulfur Dioxide Max 5-min 42406 SLAMS 1 1 MID COM 008 ppb 060 Pulsed Fluorescent Source Oriented Avg

Watkins Mill State Park

AQS Site Number **29-047-0003**

Watkins Mill Road, Lawson, MO 64062

Latitude: 39.40770 **AQCR:** 094 Metropolitan Kansas City

Longitude: -94.26539 **MSA:** 3760 Kansas City, MO-KS

Elevation (ft): 1009

Parameter	AQS Code	AQS Monitor Type	AQS POC Coll	AQS Freq	AQS Scale	State-Obj	AQS Unit-Code	AQS Unit	AQS Method Code	AQS Method	AQS Monitor Objective
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Indoor Temperature 62107 SPM 1 1 N/A MET 017 deg C 013 Electronic Averaging Other

Ozone 44201 SLAMS 1 1 URB COM 007 ppm 047 Ultraviolet Photometric Extreme Downwind

Ozone 44201 SLAMS 2 1 URB COM 007 ppm 047 Ultraviolet Photometric -

West Alton

AQS Site Number **29-183-1002**

General Electric Store, Highway 94, West Alton, MO 63386

Latitude: 38.8725 **AQCR:** 070 Metropolitan St. Louis

Longitude: -90.226389 **MSA:** 7040 St. Louis, MO-IL

Elevation (ft): 425

Parameter	AQS Code	AQS Monitor Type	AQS POC Coll	AQS Freq	AQS Scale	State-Obj	AQS Unit-Code	AQS Unit	AQS Method Code	AQS Method	AQS Monitor Objective
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Indoor Temperature 62107 SPM 1 1 N/A MET 017 deg C 013 Electronic Averaging Other

Outdoor Temperature	62101	SPM	1	<input type="checkbox"/>	1	N/A	MET	017	deg C	040	Electronic Averaging	Other
Ozone	44201	SLAMS	1	<input type="checkbox"/>	1	URB	COM	007	ppm	047	Ultraviolet Photometric	Max Ozone Concentration & Population Exposure
Ozone	44201	SLAMS	2	<input checked="" type="checkbox"/>	1	URB	COM	007	ppm	047	Ultraviolet Photometric	-
Relative Humidity	62201	SPM	1	<input type="checkbox"/>	1	N/A	MET	019	%humidity	020	Instrumental-Computed (Indirect)	Other
Solar Radiation	63301	SPM	1	<input type="checkbox"/>	1	N/A	MET	079	W/m^2	011	Instrumental-Pyranometer	Other
Wind Direction - Resultant	61104	SPM	1	<input type="checkbox"/>	1	N/A	MET	014	deg	065	Instrumental: RM Young Model 05305	Other (10m Tower)
Wind Speed - Resultant	61103	SPM	1	<input type="checkbox"/>	1	N/A	MET	012	mph	065	Instrumental: RM Young Model 05305	Other (10m Tower)

Magnitude 7 Metals (PQAO - 2368)

Magnitude 7 Metals, Site # 1 AECI Water Tower Location AQS Site Number 29-143-9001

391 St Jude Industrial Park, New Madrid, MO 63869

Latitude: 36.51364 **AQCR:** 138 SE Missouri

Longitude: -89.56093 **MSA:** 0000 Not in an MSA

Elevation (ft): 297

Parameter	AQS Code	AQS Monitor Type	AQS POC	AQS Coll	AQS Freq	AQS Scale	State-Obj	AQS Unit-Code	AQS Unit	AQS Method Code	AQS Method	AQS Monitor Objective
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Indoor Temperature	62107	Industrial	1	<input type="checkbox"/>	1	MID	MET	017	deg C	013	Electronic Averaging	Other
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Sulfur Dioxide	42401	Industrial	1	<input type="checkbox"/>	1	MID	COM	008	ppb	060	Pulsed Fluorescent	Source Oriented
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Sulfur Dioxide Max 5-min Avg	42406	Industrial	1	<input type="checkbox"/>	1	MID	COM	008	ppb	060	Pulsed Fluorescent	Source Oriented
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Magnitude 7 Metals, Site # 2 East Graveyard

AQS Site Number 29-143-9002

391 St Jude Industrial Park, New Madrid, MO 63869

Latitude: 36.50838 **AQCR:** 138 SE Missouri

Longitude: -89.56074 **MSA:** 0000 Not in an MSA

Elevation (ft): 296

Parameter	AQS Code	AQS Monitor Type	AQS POC	AQS Coll	AQS Freq	AQS Scale	State-Obj	AQS Unit-Code	AQS Unit	AQS Method Code	AQS Method	AQS Monitor Objective
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Indoor Temperature	62107	Industrial	1	<input type="checkbox"/>	1	MID	MET	017	deg C	013	Electronic Averaging	Other
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Sulfur Dioxide	42401	Industrial	1	<input type="checkbox"/>	1	MID	COM	008	ppb	060	Pulsed Fluorescent	Source Oriented
Sulfur Dioxide Max 5-min Avg	42406	Industrial	1	<input type="checkbox"/>	1	MID	COM	008	ppb	060	Pulsed Fluorescent	Source Oriented

Magnitude 7 Metals Site # 3 West Entrance

391 St Jude Industrial Park, New Madrid, MO 63869

<i>Parameter</i>	<i>AQS Code</i>	<i>AQS Monitor Type</i>	<i>AQS POC Coll</i>	<i>AQS Freq</i>	<i>AQS Scale</i>	<i>AQS Obj</i>	<i>State-Unit</i>	<i>AQS Code</i>	<i>AQS Unit</i>	<i>AQS Method</i>	<i>AQS Code</i>	<i>AQS Monitor Objective</i>
Indoor Temperature	62107	Industrial	1	<input type="checkbox"/>	1	MID	MET	017	deg C	013	Electronic Averaging	Other
Sulfur Dioxide	42401	Industrial	1	<input type="checkbox"/>	1	MID	COM	008	ppb	060	Pulsed Fluorescent	Source Oriented
Sulfur Dioxide Max 5-min Avg	42406	Industrial	1	<input type="checkbox"/>	1	MID	COM	008	ppb	060	Pulsed Fluorescent	Source Oriented

AQS Site Number 29-143-9003

391 St Jude Industrial Park, New Madrid, MO 63869

<i>Latitude:</i>	36.50899	<i>AQCR:</i>	138	SE Missouri								
<i>Longitude:</i>	-89.57099	<i>MSA:</i>	0000	Not in an MSA								
<i>Elevation (ft):</i>	298	<i>AQS Monitor Type</i>	<i>AQS POC Coll</i>	<i>AQS Freq</i>	<i>AQS Scale</i>	<i>AQS Obj</i>	<i>State-Unit</i>	<i>AQS Code</i>	<i>AQS Unit</i>	<i>AQS Method</i>	<i>AQS Code</i>	<i>AQS Monitor Objective</i>
Wind Direction - Resultant	61104	Industrial	1	<input type="checkbox"/>	1	MID	MET	014	deg	065	Instrumental: RM	Other Young Model 05305
Wind Speed - Resultant	61103	Industrial	1	<input type="checkbox"/>	1	MID	MET	011	m/s	065	Instrumental: RM	Other Young Model 05305

Appendix 2: Comments on Proposed 2023 Monitoring Network Plan, Responses to Comments, and Corrections

Comment from Advantage Metals Recycling



7/11/23

Stephen Hall, Director
Missouri Department of Natural Resources
Air Pollution Control Program
Air Quality Analysis Section/Air Monitoring Unit
PO Box 176
Jefferson City MO 65102

Dear Mr. Hall,

Thank you for the opportunity to provide written comments on the 2023 Monitoring Network Plan. After carefully reviewing the draft network plan, Advantage Metal Recycling (AMR) provides the comments relating to the ambient monitoring station located at the Branch Street site in the St. Louis CBSA. As noted in the draft network plan on page 31, the Branch St. site does not meet the quality assurance criteria of 40 CFR 58, Appendix E:

The department performed a site evaluation at the Branch St. site in the St. Louis CBSA in April 2023. The evaluation identified two items which may not meet the requirements in federal regulation in 40 C.F.R. § 58 Appendix E. A potential obstruction as described in 40 C.F.R. § 58 Appendix E.4.(b) and a nearby unpaved area as defined in 40 C.F.R. § 58 Appendix E.3.(a) were identified as items of concern during the evaluation.

Considering the monitor location and the inability to meet the requirements of "Probe and Monitoring Path Siting Criteria for Ambient Air Quality Monitoring" obligations under 40 CFR 58, Appendix E, the Missouri Department of Natural Resources (MDNR) should discontinue ambient air monitoring to measure particulate matter less than 10 microns (PM₁₀) at the site. Further, previously collected ambient air monitoring data fails to meet the quality assurance requirements and should not be certified for use in determining compliance with the National Ambient Air Quality Standards for PM₁₀.

If MDNR does not propose to discontinue PM₁₀ ambient air monitoring, then AMR recommends designating the monitor as a "Special Purpose Monitor" and not use the collected ambient air monitoring data for compliance evaluations for PM₁₀.

Thank you for consideration of these comments. If you have questions, comments, or would like additional information, please contact me at your convenience.

Sincerely,

Serena
Dehoney, CSP, CIT
Date: 2023.07.11
16:40:50 -05'00'
Serena Dehoney, CSP, CIT
EHS Director

Response to Comment from Advantage Metals Recycling

The Missouri Department of Natural Resources' Air Pollution Control Program performed a site evaluation at the Branch St. site in the St. Louis Core Based Statistical Area in April 2023. The evaluation identified two items which may not meet the requirements in federal regulation in 40 C.F.R. § 58 Appendix E. A potential obstruction as described in 40 C.F.R. § 58 Appendix E.4.(b) and a nearby unpaved area as defined in 40 C.F.R. § 58 Appendix E.3.(a) were identified as items of concern during the evaluation. The department and United States Environmental Protection Agency Staff (EPA Region 7) jointly visited the site on May 31, 2023 in order to follow up on the evaluation performed on April 26, 2023. After consultation with EPA Region 7 and further review of the applicable regulations, the department has found that the site is meeting the regulatory requirements of 40 CFR Part 58 Appendix E.4(a) and 40 CFR Part 58 Appendix E.3(a).

Department staff believe that continuation of monitoring at the Branch St. site is necessary to determine the air quality impact of facilities near the site. The department continues to work with facilities in the area near the site to reduce PM₁₀ emissions. The department did not make any changes to the plan related to this comment other than adding two sentences on page 31 in Section 6 regarding further evaluation of the Branch St. site, as discussed above.

Corrections in Final Version (Revision 1) of the 2023 Monitoring Network Plan

The department revised the section entitled "How to Make Public Comments Concerning this Plan" to indicate that it posted Revision 0 of the plan on June 15, 2023, received public comments on the plan through July 16, 2023, and has included comments and responses in Appendix 2 of this final version of the plan (Revision 1).

The department added a sentence to the footnote on page 28 in Section 4 regarding the Teledyne API T640 at the Forest Park site in St. Louis.

The department added two sentences on page 31 in Section 6 regarding further evaluation of the Branch St. site, as discussed in the comment response above.

The department has made no other changes to the 2023 Monitoring Network Plan.